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Address

A BRIEF CONSIDERATION OF THE PULMONARY COMPLICATIONS OF ONE THOUSAND LAPAROTOMIES

CHAIRMAN'S ADDRESS IN THE SECTION ON SURGERY OF THE AMERICAN MEDICAL ASSOCIATION AT THE SIXTIETH ANNUAL SESSION, 1909

JOHN C. MUNRO, M.D.
BOSTON

I wish to report very briefly all of the cases that exhibited any postoperative pulmonary complications in the last thousand consecutive cases of abdominal section (including hernia) under the care of Dr. J. T. Bottomley and myself at the Carney Hospital. I have selected this number because it represents the period of work when our operative and nursing clinic has become better crystallized, because we are almost sure of our aseptic results and because the majority of our operations are performed under a better technical coordination than in the early, formative period of our work. I have read each history so that there should be no omissions.

Thirty-nine per cent. (387) of the operations were for appendicitis, 21 per cent. (209) for hernia, 19 per cent. (188) for pelvic lesions, 10 per cent. (106) for diseases of the liver and pancreas, 6 per cent. (57) for lesions of the stomach and duodenum, 3 per cent. (36) for intestinal diseases, and 2 per cent. (17) are unclassified (omentum, spleen, retroperitoneal glands, etc.).

Thirty-four patients exhibited signs and symptoms pointing to trouble in the respiratory organs, but of these we can justly exclude all but 11 as not being postoperative pulmonary complications in the strict sense of the word. That is, 2 patients had pulmonary tuberculosis, 1 had asthma, 8 had cough with pulmonary râles before operation, some of them exhibiting cardiac lesions as well. None of these gave us any anxiety, the cough being merely a source of discomfort for a few days only. Four patients without preoperative signs or symptoms developed temporary cough without bronchial or pulmonary signs. One elderly man with broken cardiac compensation had slight edema of the lungs; 4 patients with pre-existing bronchitis had slight postoperative cough, and, finally, one septic pelvic case with cardiac disease developed a cough from edema and 2 patients with bronchopneumonia were not made worse by operation. All of these can be excluded from the class of postoperative pulmonary complications.

The cases that do interest us and which will bear closer analysis are those in which a bronchitis or a pneumonia developed out of a clear sky and in which examination before operation demonstrated no sign or symptom of a pathologic lesion in the chest.

There were 4 cases of simple bronchitis, 2 of these occurring after aseptic operation, developing on the second, sixth and seventh days, respectively, and lasting for a few days only. The fourth case developed in a patient with a large appendiceal abscess and fecal fistula, and was followed by a left femoral phlebitis. One case of bronchopneumonia appeared in a fat woman nine days after operation for septic gall bladder, and a second fatal case developed after Cesarean section, the patient having been infected prior to her entrance to the hospital.

CASE 1.—Man very septic with a large appendiceal abscess suddenly developed pneumonia on the seventh day and died within 48 hours.

CASE 2.—An emaciated man with extensive cancer of the pylorus developed persistent hiccough on the fifth day after gastroenterostomy and a pneumonia five days afterward which proved fatal in a few days.

CASE 3.—An elderly man with an inguinal hernia showed signs of pneumonia within 48 hours of operation and died two weeks later of acute cardiac dilatation.

CASE 4.—Young girl operated on in the interval for appendicitis. Convalescence was normal for four days, the patient being up and around the ward. She then exhibited signs of a bronchitis and six days after operation developed pneumonia with empyema and a septic nephritis from which she recovered. The operative field was aseptic throughout. We learned later that at the time of operation she was recovering from a severe cold, though there were no signs of trouble in the lungs. Had this been known earlier the operation would have been postponed.

CASE 5.—Middle-aged woman on whom we had done a cholecystostomy. Progress was satisfactory for seven days, when she developed typical pneumonia from which she recovered.

The diagnoses were made or corroborated in almost every instance by Dr. H. A. Christian and Dr. T. F. Leen, in charge of the medical service, and it is to their cooperation and management in many cases that we can ascribe the low mortality.

If, therefore, we exclude the cases of simple cough without pulmonary signs, and the cases of bronchitis or bronchopneumonia in which there were signs and symptoms already existing at operation, we have 11 cases of postoperative pulmonary complications, 4 of which proved fatal, a mortality of 0.4 per cent. In no other fatal case in our service could the result be ascribed to pulmonary complications as evidenced by the clinical signs or by autopsy when obtained.

The contrast of this mortality with that reported from most of the active foreign clinics, a mortality ranging from 3 to 5 per cent. or over, leads us to believe that possibly our routine methods in preparation, etherization and after-care may be a factor of some moment.

That our results are not perfect is to be regretted and the source of our failures must be carefully analyzed. Age and sex apparently play no part. Before undertak-

ing this analysis I believed that most of our patients with cough, bronchitis, etc., came coincidently with the advent of unskilled etherizers, but the facts do not bear out this supposition. All of our cases came in the months from December to May, months in which our climate in Boston is at its worst.

Must every case be ascribed to the use of ether as an anesthetic? Other clinics report similar calamities after chloroform, local anesthesia, etc.

Must not the element of chance be reasoned with to some extent? Personally I have seen as many pneumonias develop in patients in whom an operation had been postponed for a reason entirely foreign to their physical condition as I have reported here. This fact nevertheless should not give countenance to our shirking any responsibilities. In short, analyze cases as carefully as I can, I have failed to find any definite cause or causes which can be eliminated in future.

To obtain these results we have used ordinary rather than extraordinary precautions—precautions that can be used in any hospital. The operative field is cleaned with as little slopping as possible, on the operative table. The rest of the body is well protected throughout the operation, which is performed in a warm but not overheated room.

The anesthetic is pure ethyl chlorid, followed by pure ether given in as small a quantity as possible by the drop method on open gauze. Morphin and atropin are given just before starting the anesthetic. After operation, the patients are kept well protected from exposure, but we try to prevent overburdening with blankets to avoid sweating.

In practically all cases, except inguinal and femoral hernias, the patient is set upright in bed at once after operation or within a few hours, and the majority are out of bed in forty-eight hours and are given as liberal a diet as they can be persuaded to take. All are encouraged to move the body and extremities, and they are given water liberally to keep down thirst and to prevent the dirty dry mouth that comes with lack of moisture.

The whole subject of postoperative care, especially with reference to the various complications, has been growing more and more in evidence in the last few years, and it is as a modest contribution to one phase of this subject that I have ventured to offer this short paper.

"Thymus Death" and Removal of the Thymus.—Hutinel suggests that the thymus may not always be responsible for the sudden death of children with eczema a day or two after they are admitted to the hospital. It may be due to a kind of anaphylaxis. Triboulet has witnessed a dozen cases of sudden death of infants with eczema within twenty-four or forty-eight hours after entering the hospital, and Hutinel has had the same experience with infants with varicella and scabies. The skin in these cases is open to the penetration of germs and poisons, and micro-organisms were almost always found in the blood. The surprising feature is the suddenness of the fatality. Marfan has had a number of similar experiences. Veau, in a communication published in the *Bull. Soc. de Pédiatrie de Paris*, March 16, remarks that the pathology of the thymus seems to have only one symptom, that is, sudden death; but it may yet be possible to detect the hypertrophy of the thymus in time to permit of its safe removal. He has found eight cases on record in which the thymus was removed, with immediate success and no fatality. The thymus is easily shelled out, he says; as soon as its recess is opened the thymus protrudes and it is easily enucleated, after which the vessels can be readily ligated. The operation is simple and easy; the only difficulty is to recognize the signs of trouble in time.

Original Articles

THE COLON TUBE AND THE HIGH ENEMA

HORACE W. SOPER, M.D.
ST. LOUIS

The question of how far into the colon it is possible to introduce a soft rubber "colon tube" appears to be as yet not definitely settled. The majority of physicians in this country and in France seem to be of the opinion that the tube must be passed through the sigmoid flexure in order effectively to administer a nutrient enema. In Germany, Nothnagel[1] (in 1898), Naunyn[2] (1896), Boas[3] (1903), and others maintained that the soft tube always coiled up in the ampulla or dilated portion of the rectum and could not be made to pass through the sigmoid. Wachmuth's[4] early work in 1862 laid the foundation for the general belief that the long tube could be passed high up into the colon. Cadge[4] and

Fig. 1.—Skiagram showing long rubber tube coiled on itself in the dilated portion of the rectum.

G. Simon[5] were among the first to deny this, basing their opinions on experiments on the cadaver.

Kuhn[6] devised a metallic spiral sound which he claimed by manipulating the sigmoid externally could be passed through into the colon. Schüle[7] by means of radiographs proved that it was impossible for the spiral sound of Kuhn to reach farther than the middle of the sigmoid in either the living or dead.

Rieder,[8] of Munich, in 1904, succeeded by means of *x*-ray pictures in demonstrating the fact that enemata of water, milk and oil mixed with subnitrate of bismuth introduced through short rectal tubes reached the cecum.

1. Spezielle Pathologie u. Therapie, 1898, xvii.
2. Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie, 1896, p. 131.
3. Zur Behandlung chronischer Dickdarm Katarrh, Berl. klin. Wchnschr., 1903, xxii, 497.
4. Quoted by Lilienthal.
5. Über die Ernführung langer elasticher Bohre und über forcierte Wasserinjektionen in den Darmkanal, Arch. f. klin. Chir., 1873, xv.
6. München. med. Wchnschr., 1896, xxvii-xxxix.
7. Über die Sondierung und Radiographie des Dickdarms, Arch. f. Verdauungskr., 1904, x.
8. München. med. Wchnschr., 1904, xxxv, 1548.

Craemer,[9] discussing Rieder's[10] paper before the medical society of Munich, cited a case of fistula of the ileum through which oil appeared, the enema being given through the ordinary short tube.

v. Aldor,[11] in 1903, advocating the use of high enemata in chronic catarrh of the colon, asserted that he used soft rubber tubes 9 mm. (⅓ in.) in diameter and 80 cm. (32 in.) in length which he passed into the descending colon.

Boas,[3] replying to v. Aldor, denied the possibility of passing a soft rubber tube into the sigmoid and asserted that the so-called high enema was an illusion. He maintained that by means of auscultation one may determine the passage of liquids to the cecum, introduced through the ordinary short rectal tube. He cites a case of cecal fistula through which water injected through the short tube (4 to 6 inches in length) appeared within a few minutes.

V. Aldor,[12] in 1905, reiterated his former views, publishing two *x*-ray pictures, one with a tube coiled up in the rectum, the other with a tube apparently in the descending colon. Unfortunately the bony landmarks can not be seen in the radiographs he shows, and the exact anatomic relations can not be defined. V. Aldor lays great stress on the "right way" of passing the tube. He places the patient on his left side, the well-oiled tube being introduced slowly, withdrawing a little when resistance is felt and then again advancing. He explains the actions of liquids in cases of fistula of the colon as being caused by abnormal reverse peristalsis which he assumes to be present in these cases. He insists that in normal individuals the fluid introduced by means of a short tube collects in the ampulla recti and never reaches the colon.

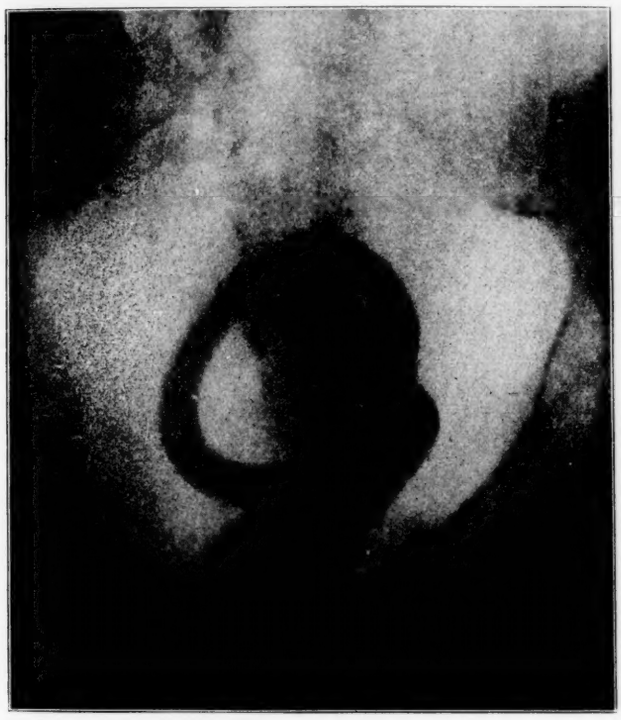

Fig. 2.—Another view of the same condition as in Figure 1.

Rosenberg[13] and Lilienthal,[14] in a long series of experiments (working independently), attempted to follow v. Aldor's method, supplementing it by means of the sigmoidoscope and the knee-chest position. Both arrived at the same conclusions, which they verified by *x*-ray photographs, that: (1) the soft rubber tube invariably coiled up in the rectum; (2) the elastic woven tube and metallic spiral sound could be passed only to the bend or apex of the sigmoid flexure where they impinged on the wall, the long mesentery of the sigmoid stretching out in a fan-like manner, permitting no further progress; (3) by means of the sigmoidoscope the soft tube could be made to reach the center of the sigmoid, but no farther, the longest distance being 30 cm. (12 in.).

Fig. 3.—Skiagram showing the outlines of the ampulla recti with the anal canal of Symington; taken 2 hours after the administration of an enema of oil and bismuth.

Recently G. S. Hanes,[15] of Louisville, Ky., states that he has succeeded in passing the colon tube through both the splenic and hepatic flexures of the colon. He fails, however, to show any pictures with such a tube in position, but shows several radiographs of the coiled tube in the ampulla. J. M. Matthews,[16] in discussing Hanes' paper, stated that "he thought a good rectal bougie of sufficient consistence could be introduced into the colon."

During the past eighteen months I have conducted a series of experiments in which I have attempted to pass long soft rubber blunt-end tubes with side openings into the rectum, the patient being in the side and in

9. München. med. Wchnschr., 1906, iv, 196.
10. München. med. Wchnschr., 1906, iii.
11. Behandlung chronische Dickdarmkatarrhe mit hohen Eingiessungen, Berl. klin. Wchnschr., 1903, xix.
12. Der Wert der hohen Darmeingiessungen, Berl. klin. Wchnschr., 1905, xxxiv, 44.
13. Darmsondierung, Deutsch. med. Wchnschr., 1905, xiii, 498.
14. Sondierungversuche des Colons, Arch. f. Verdauungskr., 1906, xii, 140.
15. The Introduction of Tubes, Bougies and Metal Instruments into Lower Bowels, with Radiographic Illustrations, Kentucky Med. Jour., 1909, iv, 173.
16. Kentucky Med. Jour., 1909, p. 182.

the knee-chest positions. Sixty cases were examined. In some a mixture of oil and bismuth, in others of bismuth and water, was allowed to flow through the tube simultaneously with its introduction. In others merely the well-oiled tube was used. The position of the tube was then verified by means of a specially constructed fluoroscopic apparatus. The radiographs which I present as exhibiting the results of my experiments were taken by Dr. R. J. Carman.

Figures 1 and 2 illustrate the manner in which the tube invariably coiled up in the dilated portion of the rectum. In many cases I felt sure from the ease in which the tube entered that it was surely in the colon, but always found it coiled as before. In both figures the length of the tube introduced was 22 inches.

Figure 3 shows graphically the outlines of the ampulla recti with the anal canal of Symington. The radiograph was taken two hours after an enema consisting of 500 c.c. (1 pint) of oil and 100 gm. (3¼ oz.) of bismuth subnitrate. It is here that the folding of the tube occurs. The fluid one hour before had reached the cecum.

Fig. 4.—Skiagram of the ascending, transverse and descending colon and a portion of the cecum fairly well filled with an oil and bismuth enema.

In Figure 4 an enema of the same ingredients as in Figure 3 was given through a soft rubber tube introduced 4 inches into the bowel with the patient lying on his left side. He remained in this position for one hour when the radiograph was taken. The ascending, transverse and descending colon and a portion of the cecum are seen to be fairly well filled.

Figure 5 shows the tube high up in the colon passing up on the right side, then curving to the left and reaching the diaphram near the median line. This, the only case in which I succeeded in introducing the soft tube higher than the dome of the rectum, proved to be a case of Hirschsprung's disease or congenital idiopathic dilatation and hypertrophy of the colon. Even here it was necessary to use the sigmoidoscope to introduce the tube. This raises the question of anomalies of the sigmoid and colon, especially the straight and dilated, or slightly bent sigmoids. All the text-books on anatomy that I have consulted are silent on this subject. In the literature all the references to such conditions were of the same character, *i. e.*, to cases of dilatation and hypertrophy of the lower segment of the colon, particularly of the sigmoid flexure. V. Aldor's case above referred to strongly suggests the possibility of such an anomaly as is shown in the figure.

In conclusion, I believe that it is only in those rare cases of abnormal development of the sigmoid that it is possible to introduce a soft rubber tube higher than six or seven inches in the rectum without it bending or coiling on itself. With the aid of the sigmoidoscope only the middle of the sigmoid can be reached. The practice of allowing liquids to flow through simultaneously with the introduction of the tube serves to smooth out the kinks and adds to the illusion that the tube is going higher.

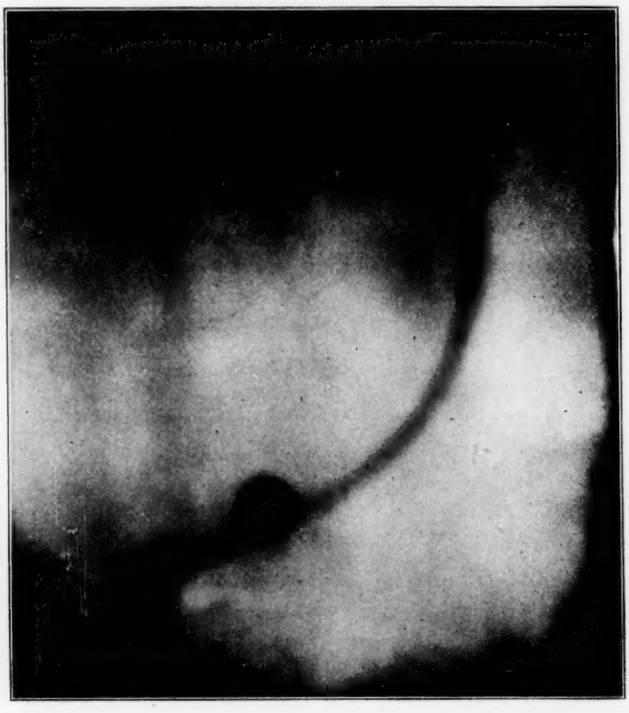

Fig. 5.—Skiagram showing the rectal tube high up in the colon in a case of Hirschsprung's disease.

The short tube, 6 inches in length, is therefore best for all sorts of enemata (a), when water, etc., is introduced for the purpose of causing fecal evacuations, using the fountain syringe or funnel and long tube in the usual way. It is possible, as I have frequently demonstrated, thoroughly to cleanse the entire colon by using a large caliber (½ in.) short tube. This is connected by rubber tubing with a large funnel elevated from 3 to 4 ft. above the patient, pouring in the solution until he experiences a feeling of distention or desire to evacuate, then lowering the funnel until the outflow has ceased, repeating this maneuver in exactly the same manner as in gastric lavage.

The short tube is also best (b) when retention of liquid is desired, as in administering saline solution, oil, nutrient material, etc. The attempt to pass the tube higher into the bowels is not only unnecessary but, because of the coiling that inevitably occurs, such a manipulation tends to produce irritability of the bowel. This, of course, will very probably cause expulsion of the fluid.

OTOLOGIC AND RHINOLOGIC COMPLICATIONS OF SKULL FRACTURE *

CHARLES R. C. BORDEN, M.D.
BOSTON

Fractures of the base of the skull are interesting to the aurist and rhinologist for several reasons.

First, the lines of fracture frequently cut the bones containing the special organs of sense, which are his special field of work. Second, the intracranial lesions take place largely in areas of the brain in which he is especially interested. Third, a study of traumatic lesions of the brain may broaden considerably his knowledge of certain cranial symptoms which are in a measure allied with those produced by diseased conditions of the ear and nose invading the tissues within the skull. Also, they are of interest because knowledge of the causes and sequelæ enable the specialist in diseases of the ear and nose to more thoroughly understand what has actually taken place within the skull, when he may be called in consultation with neurologist or surgeon for aid in diagnosis in suspected cases of basal fracture; or to give expert testimony in the courts of law when the ear has been involved.

Unless one has especially studied the extent of the fissures, he is usually amazed to find the amount of injury which the basal bones may receive. The injury may be found in any part of the base, but a study of a number of cases will reveal certain areas to be more fragile than others. (The sella turcica, petrous portion of the temporal, great wing of the sphenoid and orbital plates of the frontal, are the ones most often involved.) The injuries usually cross the suture lines at rather wide angles and seldom follow close to them for any distance.

The lines of fracture occasionally pass from one extremity of the skull to the other, either from before backward, or from side to side (Figs. 1 and 6). The fractures are not necessarily caused by extremes of violence; the most extensive fracture I know of, having occurred in a man who simply fell backward, striking his head on the floor (Fig. 1). In this case the lines radiated in every direction on three sides of the head. Another man fell from the top of the telephone pole and while the fall proved fatal, the autopsy showed the fracture to be relatively short in extent.

The accompanying illustrations show the location, extent, and injuries of fractures of the base of the skull, with special reference to hemorrhage from the ear. Below each illustration will be found a brief case history of that particular injury.

The fracture lines usually begin at, or near, the point of injury and run in a zig-zag course across the base of the skull. The dura, because of its intimate attachment, is usually ruptured with them. The lines often cut through the grooves for prominent blood vessels. Thus the lateral sinus and middle meningeal artery are often ruptured and cause alarming and fatal hemorrhages. Again, when the point of injury is in the frontal or parietal bones, the force of the accident frequently travels diagonally or straight downward into the basal bones and spends its force there. This is an unfortunate tendency, in as much as fractures of the base are more fatal than those of the vault, and are less open to operative measures for relief.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Doubtless one great reason why hemorrhage of the ear is one of the most frequent symptoms, is because of the location of the temporal bone. Situated as it is, practically in the center of the skull, it receives within its body the fractures from surrounding areas. Thus it is cut when the point of contact is in the frontal region, the fracture reaching it before its violence is spent. The same is true of injuries of the occipital and parietal regions, for the same cause. In fact, the petrous portion of this bone frequently marks the end of a fracture and is cut in several directions, the lines spreading over its surface like the lines of a fork, the single fracture extending from the point of injury to this bone forming the handle (Fig. 2). However, when we consider the number of foramina, cavities, etc., in the petrous portion, this does not seem strange.

Hemorrhage from the ear naturally follows, and in a measure we can roughly estimate, in a number of cases, the possible line of fracture by imagining it to extend from the external injury to the affected temporal bone, even though it may occur on the opposite side of the head. In connection with this much has been said of *contre coup*. Doubtless hemorrhage from the ear occurs in this manner, but I am inclined to believe that it does so less frequently than is generally supposed. When autopsy records tell of fractures 8, 9 or 10 inches in length one does not need the *contre coup* hypothesis to account for any symptoms present (Figs. 1 and 6).

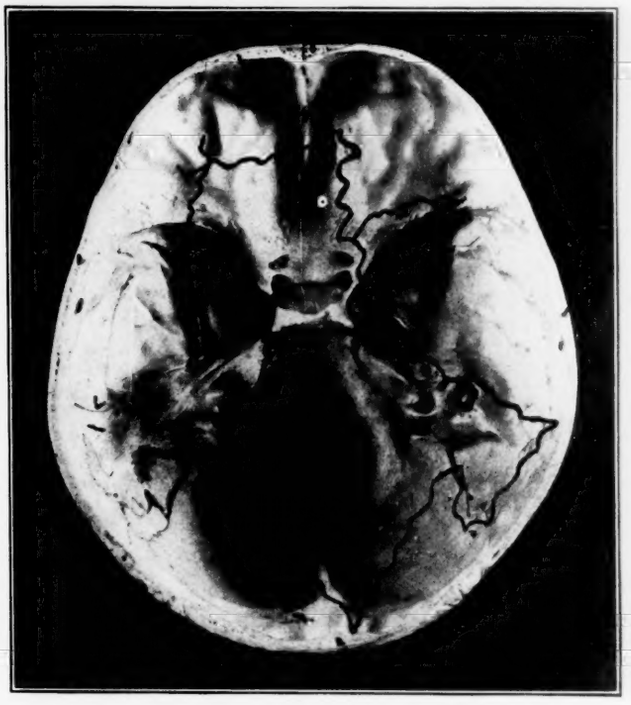

Fig. 1.—R. B., fell backward, striking the head on the floor. The autopsy showed the pupils unequal. There were crusts of blood in both auditory canals, and crust in anterior nares. Dura was tense, congested and bulging. Surface of brain was bathed in bloody fluid, but there were no blood clots. Frontal lobes were soft, mushy and blood stained. Ventricles were not distended. A small area of clot was found in upper part of pons. There was an area of softening in right lobe of cerebellum.

In a record of 35 autopsies I find the parietal bones to be the ones most frequently injured, they having been involved in 18 cases. The squamous portion of the temporal was cut through in 13 and the petrous portion in 12. Injury to the remaining bones of the skull—in their order of frequency—occurred as follows: Occipital, 12; frontal and orbital, 12; great wing of the

sphenoid, 10; sella turcica, 10; cribriform plate, 4; body of sphenoid, 3; crista galli, 3; lesser wing of sphenoid, 2; occipital plate of sphenoid, 1, and the ethmoid plate, 1, while the groove in the occipital bone for the lateral sinus was found to have been cut four times.

In the series of 408 cases under consideration, 221 patients had hemorrhages from either one or both ears; it occurred in 202 on one side only and in 19 on both. The amount varied from a slight trace of blood to a persistent flow of the same fluid for a considerable time. A small percentage presented a flow of serous or meningeal fluid from the ear. Autopsy records show the hemorrhages to have occurred from the middle meningeal and other cranial arteries, from the small vessels of the dura, pia, and diploe of the cranial bones, and in several instances from rupture of the lateral or longitudinal sinuses.

So far as I can determine, hemorrhages from the ear, either in large or small amounts, are not especially important as influencing the ultimate prognosis. In a series of 142 cases, with hemorrhage present, it occurred on the side of the injury in 62.3 per cent., on the side opposite the injury in 16.5 per cent. and on both sides in 11.2 per cent. The location in the remaining 10 per cent. was not mentioned by the records. Of the 408 cases collected in the series, 62 were classed as fractures of the vault and 346 as fractures of the base.

If one wishes to make a careful study of this subject he will find many articles by certain eminent authorities taking up exhaustively the different phases of the injuries. The writings of Cushing,[1] Brun,[2] Ballence,[3] Thomas,[4] Walton,[5] Bullard,[6] Hartley[7] and others deal minutely with the diagnosis and surgery of the head, from the viewpoint of the surgeon and neurologist. It is my intention, however, to present the matter from the point of view of the otologist and rhinologist, taking up very superficially the symptoms as they presented themselves in the hospital records and certain interesting facts taken from the autopsy records of cases directly connected with this series. In this manner I hope to present the subject in a condensed form in such a way as to enable the busy practitioners of our specialty to review the subject briefly and to find therein some interesting and instructive points of knowledge which may be useful at some future time.

Desiring to learn more of the subject, I consulted the records of the Boston City Hospital for a period covering seventeen years, and I have a more or less complete record, tabulated and charted, of something over 400 cases, from the study of which I offer the following facts and figures for your consideration:

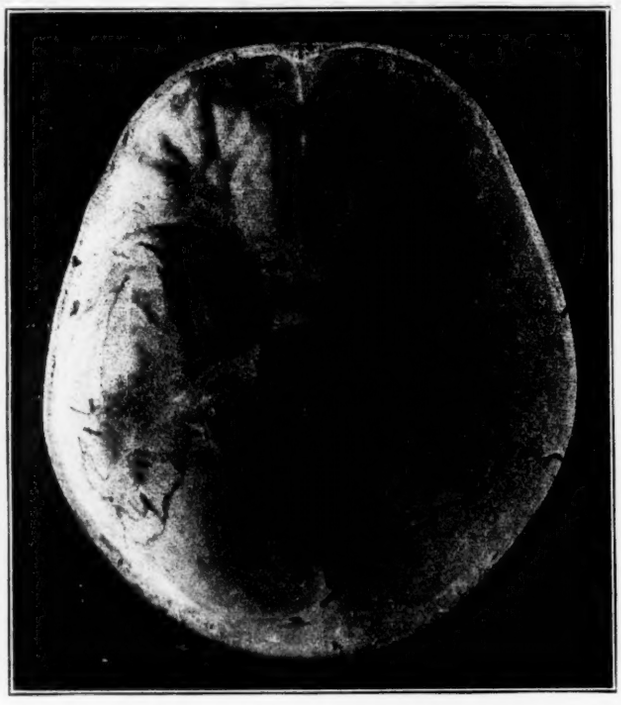

Fig. 2.—J. A. H., aged 67, male, fell down hatchway. He was conscious; pupils were equal and reacted; pulse was 48; respiration 30. There was a ragged wound of the left occipital region, and fracture of right arm; he was mentally confused (later); knee-jerks were absent. The following day he was stupid, delirious and had hemorrhage from right ear; Erysipelas set in the following day; thirteen days later there was elevated temperature; no localizing symptoms. He gradually grew weaker and died.

Autopsy: There was a large amount of yellowish purulent material spread over the cerebrum, and also over the cerebellum and down the cord. Three ulcerated areas were found at base of right side of the brain; one at base of fundal lobe; one on right side of anterior portion of temporal. The right middle ear was filled with a dark mass of clotted blood. A yellowish thrombus was found in the longitudinal sinus.

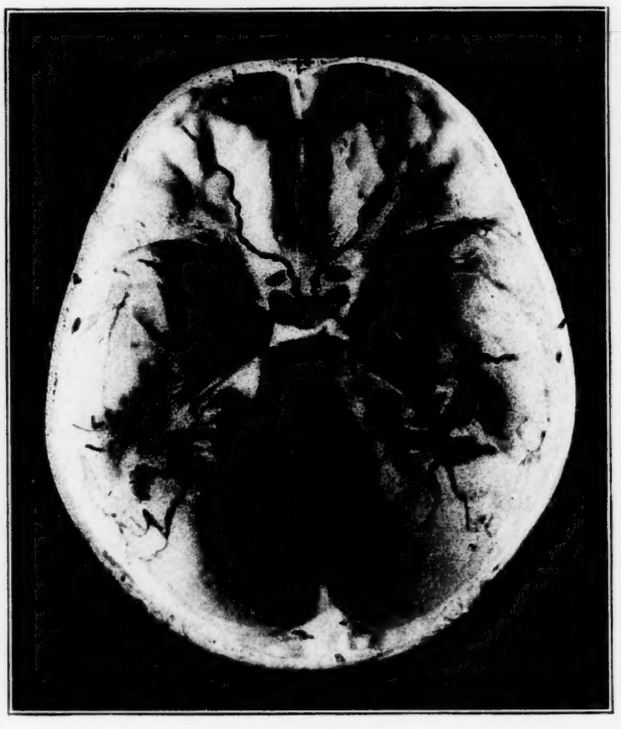

Fig. 3.—G. A. M., male, age not given, fell 10 feet, striking stone steps. When picked up he was unconscious; pupils were dilated, with no reaction. There was a wound over the left frontal region. He had a slight convulsion; external sensation lost. He had strabismus and head was contracted to left; there was paralysis of right side of body and face.

Autopsy: There was a moderate amount of blood in the vessels of the pia at the base of the brain; a small amount of reddish, yellowish fluid was found in the lateral ventricle, and there were two small masses of clotted blood in the fourth ventricle. The hemorrhage extended into fissures of Sylvius and Rolando. There was no laceration of brain tissue.

First in order is sensorium. Here, as in other symptoms, we have a wide range of possibilities. We find our patient conscious, unconscious, or in a condition of

1. Keen's "Surgery," Vol. iii, p. 64-90; THE JOURNAL A. M. A., Jan. 16, 1909, p. 184.
2. Beit. zur klin. Chir., 1903, xxxviii, 192.
3. Acland and Ballence: St. Thomas Hosp. Rep., new series, 1894.
4. THE JOURNAL A. M. A., July 25, 1908, p. 271.
5. Ann. Surg., 1904, xl, 654.
6. Proc. Mass. Med. Soc., 1902, p. 269.
7. THE JOURNAL A. M. A., Jan. 9, 1909, p. 99.

semiconsciousness. In a series of 307 cases in which, in the records, the mental condition was distinctly stated, 168 patients were unconscious and 58 conscious, the remaining 81 being in the intermediate stage of stupor, sluggishness or confused or dazed mentality. The mental condition naturally has a considerable bearing on the severity of the case, and on the treatment and prognosis. Of those patients conscious on admission 13 per cent. died and 87 per cent. were discharged relieved. On the other hand, of those unconscious on admission 51 per cent. died, while of 9 admitted in a comatose state 66 per cent. died, and of those admitted whose mental condition was in the intermediate stages the mortality was comparable to that occurring in unconsciousness.

Next in order of importance comes the examination of the pupillary reactions, a very wide range of conditions existing. The greater number are, strange to say, normal, and it is surprising to note the grave symptoms which may be present with normal pupillary reaction. In 339 individuals 161 had normal pupils, but of those 24 per cent. died. Next in order of frequency are those patients in whom one pupil is dilated, the dilation usually occurring on the side of the injury. As a rule this is not to be regarded as an especially dangerous symptom, my records showing that two-thirds of these patients recovered. On the other hand, when the pupils were unequal and there was no reaction to light, only 27 per cent. recovered. Of 8 individuals in whom the pupils were equally dilated and no reaction was present 7 died. The finding of this symptom, then, should be regarded as a very grave condition. Contraction of one or both pupils is to be regarded as more serious than dilatation. Equal is more common than unequal contraction, and the records show about 50 per cent. of deaths when either occurs.

Decidedly the worst pupillary symptoms which I found noted were wide dilation of one pupil and contraction of the other to a pin point. Eight such instances are recorded and each was followed by death, this being the one symptom which was invariably fatal.

Unfortunately, in the early part of my investigations I failed to appreciate the significance of ecchymosis of the orbital region and of exophthalmos. For this reason I am unable to give figures as to the frequency of these conditions, but, judging from my study of the autopsies and from memory of the cases, I can state that they are commonly found but are not especially important so far as prognosis is concerned.

We are led to believe that a slow pulse rate is perhaps the cardinal symptom of intracranial involvement, and I had expected to find it present in the majority of cases, only to be greatly surprised at finding it otherwise. In over 400 cases in which the pulse was distinctly recorded I find it to be below 60 in only 14. To be sure, it was between 60 and 70 in 30 cases, but this could hardly be said to be an especially slow pulse. It was between 40 and 45, three; between 45 and 50, five, and between 50 and 60, eight times. Thus, comparing these figures with the entire number it is seen that the pulse was below 60 in a trifle over 4 per cent. of the cases.

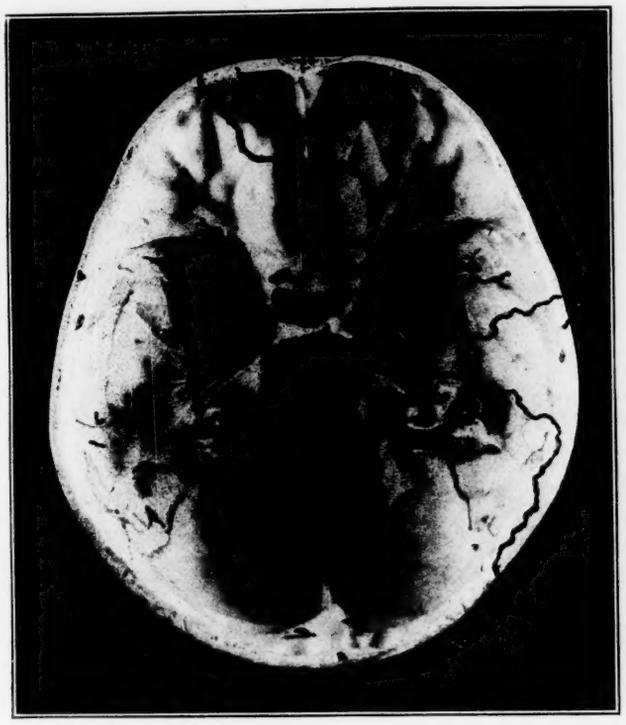

Fig. 4.—W. L., male. There was no external injury; the right pupil was dilated and reaction was sluggish. The man vomited a pint of dark blood, and there was bleeding from the left ear. Pulse was 44. There was no paralysis. Temperature was 96 F. on admission; the following morning it was 102; respiration was shallow. He died from failure of respiration.

Autopsy: Small subdural clot was found over the fissure of Rolando, 2 cm. anterior and posterior. Convolutions of right side of brain were markedly flattened. The surface of the parietal lobe showed two small softened areas; these extended into brain substance 3 mm. There was a clear, watery fluid in the left ventricle. The right middle ear and antrum were filled with clotted blood; the drum was intact.

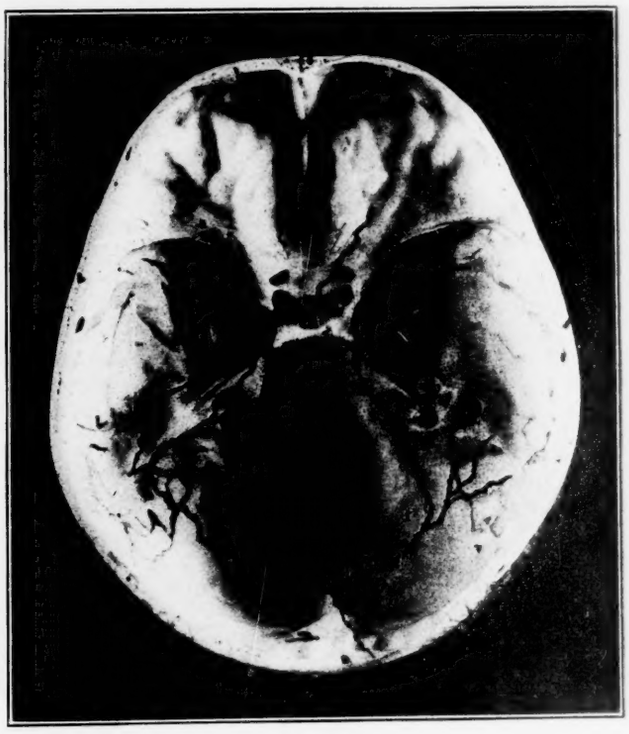

Fig. 5.—R. McG., male, age unknown, was struck by electric car. Pupils were equal and did not react; respiration was stertorous and rapid (45); pulse was 60 and knee-jerks were exaggerated. There was no vomiting. The wound was 2 inches long over the right parietal region; there was bleeding from ear. He did not move the left leg; the face and head were turned slightly to the right. His condition was practically hopeless, and he died shortly after admission.

Autopsy: There was considerable subarachnoid hemorrhage over the entire area. There was laceration of the tip of the frontal lobe, and of both temporosphenoidal lobes; there was also hemorrhage into right side of posterior portion of the pons.

Cushing[1] regards the slow bounding pulse as an effort on the part of Nature to overcome anemia of the brain and that it is instrumental in saving the patient's life.

Efforts have been made to reduce the pressure of the pulse by venesection or lumbar puncture, but this procedure is not endorsed by Cushing, instances of either sudden death or markedly weakened condition of the patient, following the procedure, being cited. It seems to me that the reason why slow pulse is not more often found in this class of cases is because the pressure is usually more uniform over the surface of the brain than it is in the case of abscess, tumors, etc.; also the lesions in fractures of the base are usually superficial and extend over wide areas; whereas in tumors, encapsulated abscess, etc., the areas under pressure are deeper and much more sharply defined. Again, the pressure from hemorrhage is liable to be well forward in the temporosphenoidal lobes.

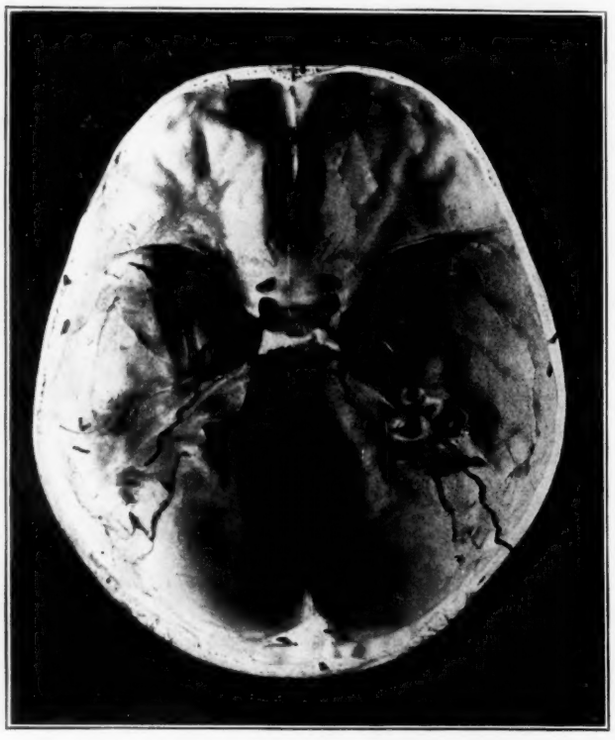

Fig. 6. —M. S., male, was found unconscious on sidewalk, assaulted. Pulse was 100; pupils were equal and reacted; reflexes were normal. There was bleeding from left ear and a slight lacerated wound of right auricle. He vomited several times. Temperature was 103 F. Four days later temperature was 104 F., and the man died.

Autopsy showed a firm dark blood clot in cortex of brain (temporosphenoidal lobe), with contusion and softening of frontal and temporal lobes. The bruised areas were covered with blood clots. The ventricles were normal.

Slow pulse may develop after admission of the patient to the hospital and when present denotes either the beginning of meningitis, extension of hemorrhage backward and inward, or an increase of the cerebral fluids in the deeper parts of the brain.

On the other hand, a rising pulse is a distinctly bad symptom, denoting either failure on the part of Nature to maintain the cerebral circulation against increasing pressure or absorption into the circulation of infection from the cranial cavity. In the first instance anemia of the brain from pressure will soon cause death from failure of the respiration; in the second, naturally, death comes from toxemia and exhaustion.

In the majority of cases death is caused by pressure resulting in failure of the respiration, there being a number of cases on record in which the heart continued beating several hours after respiration ceased, the patient having been kept alive during the interim by artificial respiration.

In 80 per cent. of the cases in this series the pulse ranged between 70 and 100, and in 15 cases the records spoke of it as being slow, but did not mention the number of beats.

Temperature ranged from 95.1 to 110.8 F. In five cases it was subnormal and the patients died in a few hours. The high temperature mentioned occurred just before death and was subnormal at the time of admission. In three of such cases, just prior to death, the temperature rose to 107, 108.5, and 110.8 F., respectively. Elevation of temperature occurred a number of times from outside causes, such as pneumonia, erysipelas, septic wounds, and once from the prosaic cause of measles. On the whole, except for marked cases of meningitis, the temperature did not seem to play an especially important rôle.

Respiration is the most important symptom to be considered, for it was the failure of this function which usually caused death. I found the records gave the respiration as stertorous in 41 cases, as rapid and labored in 7, as slow and labored in 5, as slow in 5, irregular in 4, Cheyne-Stokes in 3, blowing in 1, infrequent in 1, and gasping in 1. Many of those patients, however, recovered.

Vomiting, another cardinal cerebral symptom, was not especially prominent. I find it mentioned in 55 cases, but in only 5 was it persistent or considerable. In many cases it consisted simply in the vomiting of blood once or twice, with no return throughout the case. Once there was nausea without vomiting.

Convulsions are referred to 25 times throughout the records. In 3 they were general; in 11 one-sided; in 8 they occurred at or near death, and in one they were limited to a continuous winking of the right eyelid. A number of patients having convulsions recovered.

Facial paralysis occurred in 24 cases. It suddenly came on from two to ten days after admission, though in a few it was present on admission. As a symptom it was much the same as when resulting from other causes, and was persistent, being present at the time of discharge of patient from the hospital. In fact, of all the nervous manifestations in many cases it was the last to be recovered from.

Delirium is common, varying from very mild to almost maniacal attacks. It occurred in both mild and severe cases. This is not strange, considering the class of people most of the patients represent and the frequent abuse of alcoholic liquors among them. Children and some women developed great mental excitement without active delirium. Delirium in the records is especially mentioned in thirty-three cases.

The nervous symptoms of this particular series of cases have previously been reported in detail by Dr. J. J. Thomas.[4]

Age is of no special importance and of little use in prognosis, except in young children. Here we find the most spectacular injuries with recovery. A number of young children appear in the series with a history of falling from second, third and fourth-story windows; as having been struck by automobiles, fire engines, express wagons, etc.; but these young patients recovered, in many instances, in a surprisingly short time. It

occasionally happened, however, that the shock was too great for even the soft cranial bones of childhood. Vomiting is more common on the whole among children than in adults. This symptom is especially present soon after the accident and occurs in many children who ultimately recover. It must always be borne in mind that in all fractures of the skull alarming symptoms may develop at any moment, even when the case appears simple and uncomplicated, and I wish to mention here a case of importance, illustrating the extreme need of keeping patients quiet and under observation after such injuries. A child was brought to the hospital after having fallen from a second-story window, having landed on a brick pavement. It had all the symptoms of extreme shock and was treated for the condition in the usual way. In a very short time it had apparently recovered. In fact, the improvement was so rapid the question was raised as to changing the original diagnosis of "fracture of the base of the skull" to "concussion of the brain." A day or so later the parents removed the child from the hospital, against the advice of the surgeons. Shortly afterward the child was returned to the hospital with decided symptoms of meningitis, from which it died in a few days, and at the autopsy the base of the skull was found fractured in every direction. Had the unfortunate child been allowed to remain quietly in the hospital she might have recovered and have been little or no worse for the injury.

Autopsy records offer valuable information to those who are not especially familiar with the subject. Here we find indisputable evidence of the extent of these particular injuries.

Both tumors and encapsulated abscesses are bodies of definite dencity and form. In hemorrhage we have a softer body to contend with, and consequently a different group of symptoms, notwithstanding the fact that the location is often identical.

Hemorrhage with or without clot does not appear to cause such definite symptoms as do tumors and abscesses. On first thought this seems strange, but the difference is explained by autopsy findings. Both tumors and abscesses are usually well embedded in the brain tissues; hemorrhage and clots, on the other hand, spread themselves over a considerable surface. The pressure of a tumor or a tense abscess may be likened to the pressure obtained from placing a marble, or even a billiard ball, within the skull. The pressure from free blood, or from a clot, might be compared to that of a pad of rubber or folded gauze. This I regard as the reason why marked cerebral vomiting, slow pulse and choked disc are not more generally found in these cases. In my studies of 35 autopsies I found it common to have an entire lobe of the brain compressed over its whole external surface. This condition is illustrated in (Fig. 4). Occasionally an entire hemisphere is under compression, and one or two cases show pressure from flattening of the hemispheres on both sides of the brain.

Consider for a moment the terrible pain which would arise from pressure of clots sufficient to compress the entire external surfaces of the hemispheres of both sides of the brain. In this particular instance the pressure assumed the action of the jaws of a vise, squeezing equally from each side toward a central point.

Hemorrhages or clots are found in nearly every possible area within the skull, in certain localities, however, much more commonly than in others, being noted in the greatest number over the temporosphenoidal and frontal lobes. Extradural hemorrhage is less often found than intradural; this is because of the rigid attachment of the dura to the bone and the lack of large vessels outside it. When extradural hemorrhage occurs, however, it comes either from venous hemorrhage from the diploetic bone, or else it finds its way through a rupture or tear in the dura, being internal in its origin. Hemorrhage occasionally is found in the deeper areas of the brain, in the ventricles, and even has been found in the spinal canal, though such cases are rare.

Contusions of the brain are more or less common and occur most frequently in the temporosphenoidal and frontal lobes. Lacerations are more often found and may occur in any of the lobes, one record even showing laceration of the cerebellum (Figs. 2 to 5).

If the brain tissue has been under pressure for any length of time we find areas of softening present, the extent varying from small spots to quite large areas, as shown in Figures 1 to 4 and 6, one case showing a softened condition of the entire base of the brain.

Infected areas of the lobes are occasionally found, and in this class we find practically only the temporosphenoidal and frontal lobes involved. Infected fluid within the dura is more common and was present in four cases, and an autopsy diagnosis of meningitis was made in three of these. Pus was found in the middle ear once and a pus pocket just outside the sella turcica once.

Blood was present in the middle ear and mastoid four times (Figs. 1, 2 and 4); in the lateral ventricle once. Excess of fluid was found in the lateral ventricle in five cases. Bloody fluid was present in four, pus in two and fluid blood in one. Blood was also found in the nose in one case (Fig. 1) and in the mouth in one.

Rupture of the middle meningeal artery was found twice and rupture of its anterior branch twice. Rupture of the lateral and longitudinal sinuses has been found at autopsies, but was not present in this series.

Edema of the brain occurred but once.

Irregularity of pupils was present in three cases and the pupils were equally dilated in one (Fig. 5). Exophthalmos was present but once in the autopsies.

Within the year THE JOURNAL of the American Medical Association has published articles by McKernon[8] and Coakley[9] dealing with intracranial infections from the ear and nose. A study of the two articles will show certain marked contrasts between lesions produced by the invasion of infection from the ear and nose and those of fractures of the skull, where, in the majority of cases, pressure from hemorrhage was the predominating factor.

The treatment of these cases, at the present time at least, is the field of the general surgeon. Many of these patients recover, from 15 to 25 days being the usual period of confinement in the hospital. The mortality in those patients requiring surgical measures in fracture of the vault is comparatively small, but in those with fracture of the base it is very high.

I have purposely omitted the subject of deafness from this paper. It is practically impossible to examine the hearing of these patients for some days after admission to the hospital because of unconsciousness or great prostration. It is my intention, however, to make a special study of this particular phase of the subject and to report it in detail at some future time.

8. THE JOURNAL A. M. A., Jan. 9, 1909, p. 102.
9. Id., p. 108.

In closing I wish to thank the surgeons of the Boston City Hospital for the use of their records, and that institution itself for the great mass of material it has furnished me for study.

The following are some statistics of the cases:

SENSORIUM

Conscious:		Unconscious:	
Relieved	52	Relieved	63
Dead	4	Dead	105
Semiconscious:		Dazed, drowsy or stupid:	
Relieved	27	Relieved	20
Dead	15	Dead	18
Comatose:			
Relieved	3		
Dead	6		

PUPILS

Normal:		Dilated equally, no reaction:	
Relieved	119	Relieved	4
Dead	38	Dead	7
Dilated equally, reaction normal:		Unequal dilation, reaction normal:	
Relieved	1	Relieved	47
Dead	1	Dead	19
Unequal dilation, no reaction:		Widely dilated, no reaction:	
Relieved	16	Relieved	1
Dead	38	Dead	8
Contracted equally:		Contracted unequally:	
Relieved	8	Relieved	..
Dead	7	Dead	2
One pupil dilated, other contracted to a pinpoint:			
Relieved	0	Dead	8
Divergent Strabismus	1	Convergent strabismus	1
External strabismus	1	Irregular pupil	2
Hemorrhage from the eye	1		

NYSTAGMUS

Relieved (slight)	1	Dead	4

PULSE

Under 40	1	90 to 100	16
40 to 45	3	100 to 110	15
45 to 50	4	110 to 120	7
50 to 60	8	120 to 160	13
60 to 70	30	Slow, rate not recorded	15
70 to 80	31	Pulseless	1
80 to 90	27		

TEMPERATURE

Normal	351	104	3
99	7	105	2
100	6	107	*1
101	4	108.5	*1
102	2	110.8	*1
103	4		

* Few hours prior to death.

Subnormal on admission:

95	1	(died few hours later)
96	2	(died few hours later)
97	4	(died few hours later)

RESPIRATION

Stertorous	41	Cheyne-Stokes	3
Slow and labored	5	Slow	5
Rapid and labored	7	Infrequent	1
Irregular	4	Gasping	1

Many of the above recovered.

VOMITING

Number having this symptom present	55
Number having persistent vomiting	5
Nausea without vomiting	1

CONVULSIONS

Number noted in the records	25
General	3
One-sided	11
At or near death	8
Continuous winking of right eyelid	1

A number of patients having convulsions recovered.

HEMORRHAGE FROM EAR

From one ear only	231
From both ears	29
Hemorrhage from one or both	260

TOTAL CASES RECORDED

Fracture of the base of the skull	346
Fracture of the vault of the skull	62
Total	408

AUTOPSIES (35 cases)

CLOTS OR HEMORRHAGE

Intradural	20	In spinal canal	1
Extradural	10		

FLATTENING OF LOBES FROM PRESSURE

Temporo-sphenoidal	9	Both hemispheres	1
Frontal	5	Right hemisphere	1
Occipital	2	Entire base	1
Parietal	1		

AREAS OF SOFTENING

Frontal	6	Entire base	1
Temporo-sphenoidal	5	Cerebellum	2
Parietal	2		

EXCESS OF FLUID IN LATERAL VENTRICLE (FIVE CASES)

Bloody fluid in lateral ventricle	4
Pus in lateral ventricle	2
Free blood in lateral ventricle	1

FRACTURES OF THE BONES OF THE SKULL

Parietal	18	Frontal	5
Squamous portion of temporal	13	Cribriform plate	4
Petrous portion of temporal	12	Lateral sinus	4
Occipital	12	Crista galli	3
Great wing of sphenoid	10	Body of sphenoid	3
Sella turcica	10	Lesser wing of sphenoid	2
Orbit	7	Ethmoid plate	1
		Zygoma	1

CONTUSION OF BRAIN

Temporal lobe	2	Frontal lobe	3

LACERATION OF BRAIN

Frontal lobe	7	Occipital lobe	1
Temporal lobe	7	Cerebellum	1

INFECTIONS

Purulent fluid within the dura	4	Meningitis	3
Infection of temporal lobe	2	Pus in middle ear	1
Infection of frontal lobe	1	Blood in middle ear	3

CONDITIONS OF PUPILS

Irregular Pupils	3	Dilated and equal	1

484 Beacon Street.

ABSTRACT OF DISCUSSION

DR. J. F. BARNHILL, Indianapolis: I have seen a few cases of fracture of the base of the skull in which there was hemorrhage from the external auditory canal, cases with such symptoms, so far as I can judge, as have been described by Dr. Borden, but I had no opportunity to make postmortems in any of them. The cases that interested me most were in children. I have seen two cases in children in which there was hemorrhage from the external auditory meatus. In one the hemorrhage was so severe that it was impossible to check it except by firmly tamponing the external auditory canal. Children react from these injuries marvelously well. Both of these children were unconscious for several hours and both suffered profound shock. One had irregular pupils. But both recovered as rapidly as it would be possible to recover from any other serious injury. In one, as soon as the hemorrhage was checked I found a large rupture of the drum membrane which extended through the posterio-superior portion of the drum head and through the neck of the malleus. It is possible that in this case there was no fracture of the base of the skull, because the child recovered so rapidly from what appeared to be so severe an injury.

DR. C. F. WELTY, San Francisco: Shortly after the fire in San Francisco we had a great number of accidents and many of these cases. There were 29, 8 of which were mine. Diagnosis of fracture of the base of the skull was based on the tuning fork tests with greatly lessened bone conduction in the ear of the injured side in comparison with the other. Of this number there were 7 cases that went on to discharge of pus from the ear and there was one in which facial paralysis existed as long as the pus continued to discharge, and as soon as the ear was made thoroughly clean the paralysis cleared up. Six of the cases required operative interference on the mastoid. These patients with fracture of the base that have the slightest possible indication of mastoid involvement should be operated on. All these patients recovered.

DR. E. A. CROCKETT, Boston: One type of traumatic injury to the ear which we should always have in mind and which is extremely difficult to differentiate from a fracture of the base is fracture of the bony portion of the external auditory canal, and associated with it rupture of the drum head. It is more common, in my experience, from blows on the point of the chin. The symptoms are very confusing on first glance, but on examining the ear one finds a distinct line of fracture of the outer canal beginning at the bony portion and running down to or through the drum. Such patients will have symptoms of surgical shock and hemorrhage from the ear. The

tuning fork test will, of course, show whether the fracture extends into the petrous portion or not. When I was an interne I made systematic examinations of all the fractures and found seven patients admitted for fracture of the base of the skull in the course of a year in whom there was no fracture of the base whatever, but fracture of the canal. These are the patients who recover with few symptoms and with perfect hearing. The condition is much more common than is supposed.

DR. J. HOLINGER, Chicago: It is text-book knowledge that in these cases of injury with loss of blood through the external auditory canal we should be careful not to inject solutions of water into the ear. In this connection I can report one case for and one against this teaching. In the first case, a man fell into a vat and was taken up unconscious; he was taken to Alexian Brothers Hospital with a slow pulse and discharge of blood from the ear. After washing the ear very carefully I noticed a white mass in the depth of the canal. It was removed with the syringe and put under the microscope, where it proved to be the cholesteatoma. While syringing as a rule is contraindicated in fracture of the base of the skull and hemorrhage from the ear, it saved this patient's life by removing infectious matter from immediate contact with the fracture line. This patient recovered with complete loss of hearing. The other case is that of a patient who fell down a steep embankment together with his team and wagon. He regained consciousness after being home forty-eight hours. He called in the family physician, who advised dropping boracic acid solution in the ear. I saw him about a week later, when he was suffering from severe headaches, extreme restlessness, vomiting, and was very ill. My diagnosis was beginning meningitis. The ear was dried carefully, all instillations were discontinued and considerable doses of morphin were given in order to secure rest and quiet; and from that night he improved. I heartily endorse Dr. Borden's suggestion of giving morphin to patients in the first stages of traumatic meningitis.

DR. J. J. KYLE, Indianapolis: What is Dr. Borden's experience with the decompression operation when the lesion is in the center of hearing? A few weeks ago I had an interesting case in which a young boy was struck on the left side of the head with a baseball bat. There was complete loss of hearing and loss of speech. A decompression operation was done and when he came out of the anesthetic he began to talk. He lived seventy-eight hours and then died very suddenly. I think that we shall be called in now more and more in these cases to differentiate between labyrinthine deafness following injury to the head and central deafness.

DR. S. MACCUEN SMITH, Philadelphia: It is natural, when we have bleeding from the ear, to assume that it is due to fracture of the base, but I am inclined to believe that in many of those patients who recover, though they bleed freely, the bleeding is due to separation of the Glaserian fissure. This was first pointed out by Albert Buck, and I have collected some data which would seem to indicate that a fair percentage of these cases are due to separation of this fissure.

DR. E. A. CROCKETT, Boston: In the case I spoke of the rupture could be clearly seen in the lower part of the canal. I have never seen a fracture of the upper part.

DR. J. M. FOSTER, Denver: Our statistics in regard to the question of injury to the organ of hearing are not very extensive because most of the cases are treated by the general surgeon. I have a case to report in which the injury was so extensive that few surgeons have seen such a case recover. While a young woman was riding horseback her horse reared and fell back on her. Her head came in contact with the ground and the saddle or head of the horse struck her on the malar bone. The blow broke the skull through. The *x*-ray showed that the fracture started in one ear, went up through the orbit, through the bridge of the nose, through the orbit on the other side and through that ear. The fracture practically separated the upper from the lower part of the head. There was a distinct separation of the roof of the nose and slight movement between the upper and lower portions of the face. She had profuse hemorrhage from the nose, as well as from the right ear. The face was swollen and elongated. The treatment was absolute quiet, the ear being treated simply by packing with sterile gauze in the canal. After a few days the discharge turned into a distinctly serous fluid that I supposed was from the brain. The fracture finally healed without suppuration and hearing became practically normal. The eye symptoms were very marked; absolute immobility of the eyes from the start. The left eye never regained sight; atrophy of the optic nerve occurred. The eye muscles regained their function. The right eye regained perfect vision, but only the internal rectus muscle regained its strength. It was only after twelve months and by doing a tenotomy and advancement that the eye was gotten into the primary position. That the patient should have lived at all was marvelous.

DR. GEORGE E. SHAMBAUGH, Chicago: There is one phase of this subject discussed by Dr. Borden especially interesting to otologists. This is the question of the disturbance in hearing from such injuries: the character of the disturbance, and the degree of deafness. Persons injured in this way, especially in railroad accidents or the employés for corporations which may be held responsible, ofttimes wish to get damages for their injuries, and it is not uncommon for malingering to be detected in cases of this sort. If the patient claims to be totally deaf in both ears, it may be an exceedingly difficult problem for one to detect a malingerer of this kind. Usually, however, these patients claim to have had the hearing destroyed in but one ear, and in these cases if we go at the examination carefully, we seldom fail to detect them in falsehoods. For example, when they stop up the hearing ear they will usually assert positively that they can not hear at all any sounds, spoken voice or tuning forks. Of course we know that it is impossible to shut out sounds in this way from a normal hearing ear. In making the examination with tuning forks for bone conduction, these patients will usually make the mistake which has been made in the discussion here this morning, by stating that the bone conduction on the affected side is much reduced from what it is on the normal side. As a matter of fact, while the Weber test is usually lateralized in these cases in the normal ear, the actual duration of the bone conduction, in applying the Schwabach test from both mastoids in cases in which there is total deafness in one ear and normal hearing on the opposite side, will differ but little and often not any.

DR. OTTO GLOGAU, New York: I examined ten cases of fracture of the base of the skull going through the labyrinth in Mount Sinai Hospital Dispensary and found that most of the patients had less disturbance of the acoustic than of the static apparatus. One had a fracture going right through the acoustic apparatus and the high tuning fork could not be heard in the ear at all and bone conduction was lessened on the fractured side. In this case, the fracture went through the corda tympani and facialis. The patient had dizziness and nystagmus to the sound side. In another case the patient had been knocked down by an automobile and suffered a fracture of the base of the skull. He did not perceive tuning forks on his left ear. Weber test to the right (sound) side, no bone conduction on the side of the fracture, spontaneous nystagmus directed to the sound side, warm water nystagmus to the affected side, much dizziness, disturbance of equilibrium, and paralysis of the corresponding left facial nerve. In court one physician testified that the patient had only an old ear catarrh and that there was no connection between his ear trouble and the trauma he had suffered.

DR. GEORGE E. DAVIS, New York: In regard to the question, elicited in the discussion, as to the differential diagnosis between simple nerve deafness and labyrinthine deafness, due to direct traumatism and infection, the functional tests for the reactions of the static labyrinth definitely decide, and of these probably the caloric test is the most reliable and is very convenient. In labyrinthine deafness, especially of traumatic origin, the static labyrinth is almost always, if not primarily, secondarily involved, and, therefore, we would expect the functional tests, whether caloric, turning, or galvanic, to prove negative; whereas in nerve deafness the static labyrinth usually remains intact and the same tests would prove positive. From a forensic point of view, this differentiation is of great importance in case of malingering. Moreover, in malinger-

ing, we can bring to our aid, in addition to the above tests for the reactions of the static labyrinth, the functional hearing tests by means of tuning forks. Malingering of one-sided deafness is readily detected by the Stinger test with the Bezold-a forks.

DR. C. R. C. BORDEN, Boston: I know of nothing in the entire field of medicine or surgery that offers such spectacular cases as fractures of the base of the skull. We get them in all degrees of severity, and in many the injury does not seem at all in proportion to the symptoms that follow. Among the records I have studied was that of a boy struck by an express train traveling at a high rate of speed. He was thrown many feet, picked up and brought into the hospital in an unconscious condition, and one would naturally suppose that he would not recover, but in two or three days he was in fairly good condition.

In regard to the hemorrhage from the ear, in the average case it is usually fairly easy to find the bleeding point within the canal. It may be in any portion of the meatus, or in the drum membrane, appearing as a ragged tear. Some patients bleed so profusely that it is impossible to find the point of hemorrhage. In the majority of cases there is a fracture, and it is unwise to assume that there is not a fracture of the base, because the symptoms are not profound. In these 408 cases there are a number in which the first treatment was given by a family physician who failed to realize the importance of the injury and treated it lightly, allowing the patients to go about, and within a few days the patients were brought to the hospital with very grave symptoms, and in certain cases died later.

The blow on the chin that has been referred to, we have seen often, as a result of fist fights. Dr. Holinger spoke of thinking he had found brain mass in the bottom of the ear; it has been found several times in the hospital, and in one of the cases there was recovery following it.

As to decompression, these cases are in the hands of the general surgeon and we see them only as a matter of courtesy. Judging from what I have been able to gather, unless the symptoms are aggravated and urgent, it is a safer plan to depend on quiet and rest. The operation for decompression has resulted many times in hernia of the brain, which is often difficult to control. Nothing except tumor causes greater pressure than trauma of this kind. Of course, certain symptoms demand operation, but usually only as a last resort. The ear should always be kept clean, and I am inclined to think that more infection comes from the nose than from the ear.

TUBERCULOSIS OF THE LARYNX

THE TYPE WHICH IS CAPABLE OF RECOVERY OR ARREST AND THE PRINCIPLES OF TREATMENT *

W. E. CASSELBERRY, M.D.
Professor-Emeritus of Laryngology and Rhinology in Northwestern University Medical School; Laryngologist to St. Luke's and Wesley Hospitals
CHICAGO

I. THE NON-RESISTANT TYPE

On the principle that an overpowering, though often erroneous, impression is produced by tragic events, our common conception of tuberculosis of the larynx is drawn from its harrowing course in about two-fifths of the cases which, collectively, for contrast, I designate the non-resistant type and which is characterized by a speedy development, persistent progress and rapidly fatal termination. Out of a total of 60 cases of private record, these qualities pertained to a group of 24, or 40 per cent., in all of which death ensued in less than an average of one year from first observation and in less than two years from the first remembered symptom of the laryngeal complication. A classical laryngeal image of the disease is presented in Figure 1, sketched from nature in the person of one of this group.

It will not, therefore, seem inappropriate as the argument proceeds that tuberculosis of the larynx which has proved capable of healing or arrest should be designated as a type, for, while Heryng, Krause and Lake have dwelt on its surgical curability in isolated instances, I seek to establish for laryngeal tuberculosis what is now well known with respect to the pulmonary affection, the fact that in certain patients Nature develops an adequate resistance, sufficient of itself to arrest the disease, and that in certain other patients Nature develops an almost but not quite adequate resistance which, when persistently reinforced by the best methods of our art, then suffices to arrest the disease.

II. THE HOPEFULLY RESISTANT TYPE

Twenty-two cases, or two-fifths of the total series, compose a second group in which the laryngeal tuberculosis ran a much slower course, the natural resistance of the patient having been sufficient to effect temporary amelioration and arrest, but usually in the end having fallen short of permanent arrest. Of this number, 8 are accurately known to have succumbed, but only after from three to seven years, and 12, when last observed, were obviously doomed, also having survived through their own inherent resistance, with but desultory aid, for from three to seven years. This brings the mortality of the entire series to 80 per cent., but the cloud is not without its silver lining, for, in addition to the third group, that of permanent arrests which will take up the other 20 per cent., there remain two cases of this second group which by aid of modern methods and suitable habits of life have now almost, if not quite, reached a state of permanent arrest.

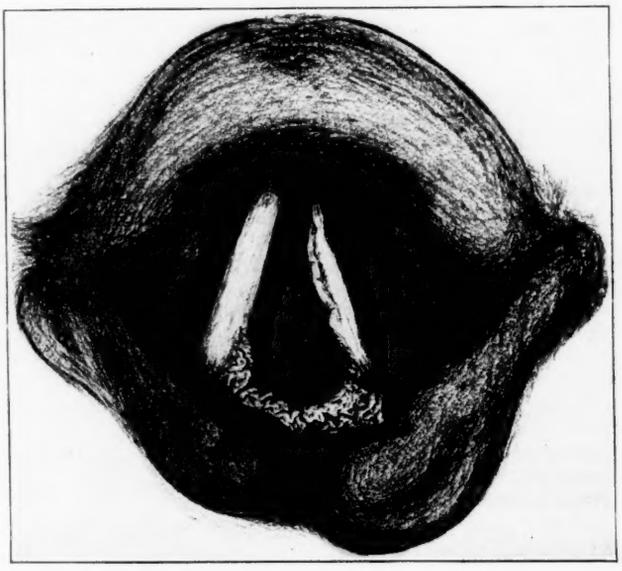

Fig. 1.—A classical image of tuberculosis of the larynx; case of Miss A. C., non-resistant type.

CASE 1.—The condition of the larynx in one of these as sketched at its worst nearly three years ago, is shown in Figure 2, in which, bearing on the diagnosis, it should be observed by comparison that, aside from a unilateral predominance, the lesions are identical in kind with those in Figure 1, which in turn was selected from the nonresistant type to represent the classical aspect of tuberculosis of the larynx. The pyriform

* Read before the Surgical Section of the International Congress on Tuberculosis, Washington, D. C., Sept. 28, 1908.

swelling of the arytenoid is the same in kind although greater in degree; it blends in like manner with another swelling of the interarytenoid fold and blends also with a diffused hyperplasia of the ventricular band. In the angle formed by the attachment of the posterior end of the left vocal cord there is the same sort of flexion fissure with eroded surface from which sprout equally characteristic granulomata. The patient, Mr. E. Z., then aged 44, had first noticed five and one-half years previously a persistent cough with expectoration, which was followed in four months by a hemorrhage and within two years by laryngeal pain on swallowing. His well-nourished appearance, to quote the patient's own phrase, "seemed to belie his disease," and this, together with the unilateral predominance of the lesions in the larynx, which, however, I have observed in the proportion of 1 to 15, suggested unusual care in the diagnosis. The apex of the right lung gave signs of a limited tuberculous deposit. Bacilli were "present, a few to a field"; histologic guinea-pig test was positive. Also the tuberculin test was positive. The patient's weight was 131, representing a loss of eight pounds; pulse 80 to 100; temperature 97 to 99 F. Under treatment at the end of a year (the sixth year of the disease) the laryngeal hyperplasia had diminished, the granulomatous fissure had become merely an irregular crease in a somewhat redundant tissue, the voice had resumed fair service, the pain on swallowing had faded to a vague sense of "something there," and with a gain of sixteen pounds the patient's ratio of weight to height was in excess. At present, in the eighth year of the disease, although the laryngeal hyperplasia is still evident, its inactivity as judged by the lapse of time, with absence of ulceration and freedom from pain or irritation, indicates a state of retrogression approaching but not yet to be classed as a permanent arrest.

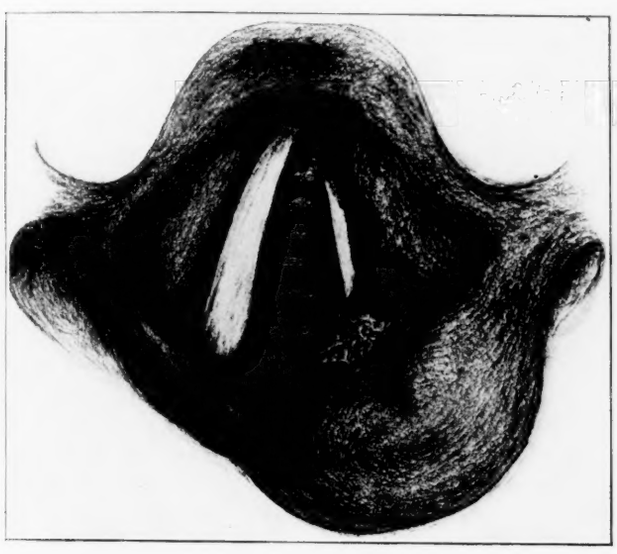

Fig. 2.—Chronic hyperplastic tuberculosis of the larynx of five years' duration; case of Mr. E. Z., hopefully resistant type, now in the eighth year and almost but not quite arrested.

III. THE SUCCESSFULLY RESISTANT TYPE OR THE TYPE CAPABLE OF ARREST

A third group is composed of eleven cases, or nearly 20 per cent. of the series, in which the laryngeal tuberculous lesions are or were in a state of arrest after the lapse of periods varying from four to fourteen years. It is not meant that all of the patients recovered permanently from every phase of tuberculosis, for the very fact that at length some of them have died of tuberculosis of the lungs or other organs will be cited in evidence that the laryngeal complication during its course was of the same nature; but it is meant by the term "arrest" that for a number of years all progression in the larynx has been interrupted and retrogression established as indicated by the cicatrization of the ulcers if any, the gradual lessening of hyperplasia and the cessation of subjective pain and irritation. In order to be fully credited, an allegation of recovery or even arrest from laryngeal tuberculosis must be supported in a manner to overcome both a natural contention of possibility of error in diagnosis and an innate doubt of the permanence of such an "arrest," for it is true that syphilis of the larynx or other tractable condition is liable, exceptionally, to be mistaken for or to coexist with tuberculosis and true also that no period of years is an absolute guarantee against recurrence. Therefore, the pertinent features of the cases of this group will be summarized in a manner designed to render competent the evidence when taken as a whole, even though the future should alter the logic of events with respect to certain of the details.

Four of these patients have been under my own inspection at various periods both before and after the arrest. Persons of this type are able to travel far and wide so that when information at first hand, based on the recorded results of competent examination of the larynx by one and the same observer both before and after arrest, is available and is reasonably conclusive in detail, it should go far toward satisfying any doubt of the disease of the larynx having been a veritable tuberculosis, and toward justifying the use of the term "arrest," as descriptive of the present state of that disease. It happens, however, that two of them, the two perhaps of most importance, have been examined also by Dr. Gildea of Colorado Springs, whose reports cover the intervening periods.

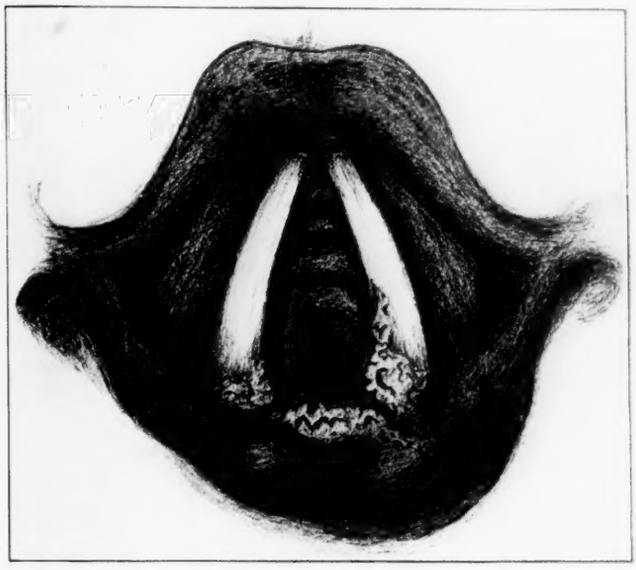

Fig. 3.—Case of the Rev. J. W. D. eight years ago, tuberculosis of the larynx in its second year; now and for five and one-half years in a state of arrest as shown in the next figure.

CASE 2.—One could scarcely doubt the tuberculous nature of the laryngeal lesions, illustrated in Figure 3, as sketched from a patient of this group in January, 1901. The mammillated hyperplasia of the interarytenoid fold, the granulomata on the cords around the vocal processes, the flexion fissure at the junction of the left cord and arytenoid, the "mouse-nibbled" ulceration about the fissure and the pyriform swelling of the arytenoids together form a picture which is absolutely characteristic. It concerned the Rev. J. W. D., who was then 27 years old, having had pulmonary tuberculosis previously for three years and the laryngeal complication for one year. He proved suitable for surgical treatment and received seven thorough exci-

sions or curettements, one each month, supplemented by lactic acid frictions running up to 90 per cent. in strength. It is specifically recorded of the fourth curettement that it was directed to the remains of the fissure and adjoining ulceration, and again recorded at the completion of the local treatment, that the granulomatous hyperplasia has been mostly removed and that all broken and ulcerated surfaces were healed. Of course, some deeply seated infiltration remained, but even its retrogression dates from this treatment at the conclusion of which a change of climate to the Rocky Mountain region favored the steady progress toward recovery. A year later Dr. Gildea reported: "All activity in his throat has ceased. . . . Voice fairly clear." At the end of six years Mr. D. himself reported: "The larynx has been well for four years. Voice fairly strong." Now, at the end of eight years, Dr. Gildea again reports: "Although much fibrosis in the lungs and a few tubercle bacilli are found, the larynx is absolutely well, the voice being clear and good and the arytenoids normal," and Dr. Gildea has made a sketch of the larynx, reproduced in Figure 4, which exhibits the present smooth, pearly-white and healed appearance of the same site, shown in the previous illustration to have been so characteristically tuberculous eight years ago. A comparison of the two pictures demonstrates that not merely an arrest but an actual recovery as far as concerns his tuberculosis in the larynx, has taken place.

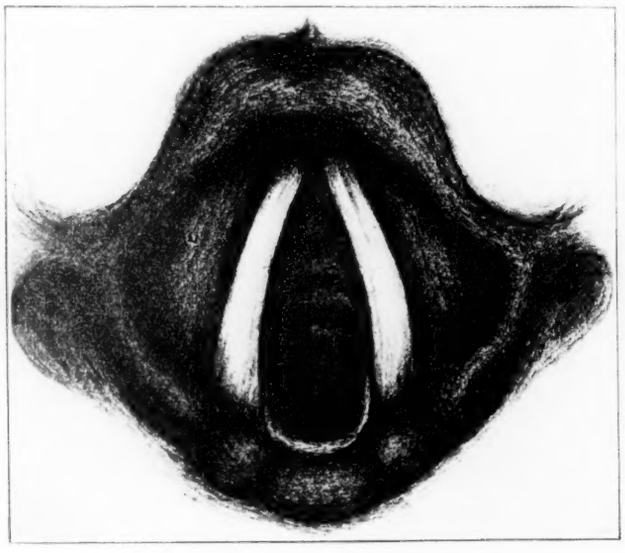

Fig. 4.—Case of the Rev. J. W. D.; now in a state of arrest and showing a smooth scar. Compare with Figure 3.

Summary.—The time from the beginning of the pulmonary tuberculosis has been eleven years. The time from the beginning of the laryngeal tuberculosis has been nine years. The duration of arrest of the laryngeal tuberculosis, with the patient living at this date, has been five and one-half years.

CASE 3.—Equally characteristic are the tuberculous lesions depicted in Figure 5, as sketched from nature in the person of Mr. R. A. L. in February, 1900. Again, the granulomatous infiltration centers about the vocal process or point of junction of the vocal cord with the arytenoid, which is a favorite site in the larynx for the initial infiltration. A similar flexion fissure is seen to be forming in the pyriform swelling of the arytenoid, but it is as yet without definite ulceration. The conspicuous infiltration of the right side of the epiglottis is shown as embracing also the pharyngo-epiglottic fold, and dotted just under the surface, more plainly visible in the image than in the illustration, were many minute individual tubercles. By reason of this condition of the epiglottis which already caused pain in swallowing, the prognosis at that time seemed especially unfavorable, although in other respects it was hopeful. The patient was 39 years old, having had slowly developing apical pulmonary tuberculosis for six years and the laryngeal complication for one year, the bacilli present being few in number. His weight was 155; pulse 120. His local treatment by curettement and lactic acid I directed especially to the granulatomatous focus around the vocal process, which improved under it. The change of climate, after some months, was first to the Rocky Mountain region. On his return in January, 1901, I was surprised to observe that the laryngeal infiltration had disappeared, a fact which I find recorded in these words: "Infiltration of epiglottis not now discernible and no pain whatever in swallowing. Weight 196, pulse still 120, lungs *in statu quo*." At my third and fourth observations in August, 1901 and 1902, the larynx remained equally well and the lungs had improved. He resided next in Southern California, whence Dr. Radebon, in 1907, reported that he was in good health. He now resides in Colorado again, and Dr. Gildea reports that his larynx remains well.

Summary.—The time, from the beginning of the pulmonary tuberculosis has been fourteen years. The time from the beginning of the laryngeal tuberculosis has been nine years. The duration of the arrest of the laryngeal tuberculosis has been eight years and the patient is living at this date.

CASE 4.—Mr. P., aged 45 in 1901, had diffused infiltration of two years' duration at favorite sites in the larynx but without definite ulceration, copious expectoration with many tubercle bacilli, evident pulmonary signs and a positive tuberculin reaction. The absence of a corresponding degree of emaciation led to the particular care in diagnosis. He was made a test case for the *x*-ray treatment, which, although it failed in subsequent cases, seemed decidedly beneficial to him and he received, within six months, no less than forty-eight exposures, after which, on special examination for the purpose, I recorded, "Larynx undoubtedly better but not well. Infiltration much less, voice improved—his friends commenting on it." During the next eight months he received only fresh-air treatment, after which was noted, "continued reduction of the hyperplasia," and after two years, on examination, I recorded his laryngeal tuberculosis as "arrested . . . with only residual hyperplasia remaining." At the end of seven years he writes from Iowa, where he is working: "I have further improved, only slight hoarseness and occasional coughing remain."

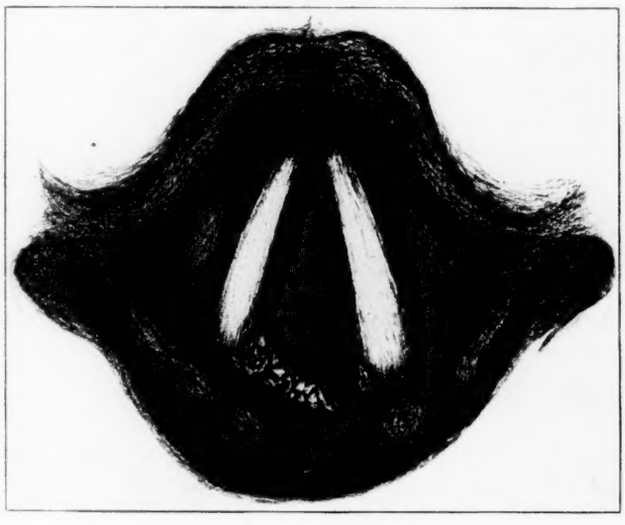

Fig. 5.—Tuberculosis of the larynx; case of Mr. R. A. L. nine years ago; now and for eight years past in a state of arrest.

Summary.—The time from the beginning of the laryngeal tuberculosis has been nine years. The duration of the arrest has been five years and the patient is living at this date.

CASE 5.—Mr. W., aged 23 in 1893, had typically tuberculous laryngeal infiltration of the left vocal process and adjoining parts of the arytenoid angle and fold of six months' duration, dating from vocal impairment, and had also tuberculous cervical adenitis and evident pulmonary disease. Business requirements caused his treatment for several months to be limited to antiseptic and emollient local applications, but afterward he changed to an outside occupation in the far west. On his return five years later the larynx showed a mere residuum of the former tuberculous infiltration and up to the end of seven years he had remained well.

Summary.—The time from the beginning of the laryngeal tuberculosis up to the period of last information has been eight years. The known duration of the arrest has been five years, and the patient is probably living at this date.

In Cases 6 and 7 I knew the condition before the arrest through personal examination, but the opinion that an arrest of the tuberculous process in the larynx has since occurred is necessarily based on written reports by the patients, stating that they are now, after many years, living and subjectively well with respect to the larynx.

CASE 6.—Mr. P. P., was sent to Saranac Sanitarium in 1901, whence Dr. Fremley transmits a copy of the record, which not only confirms the diagnosis but indicates that the patient's tuberculosis of the larynx grew worse for some months, the epiglottis and arytenoid being described as considerably enlarged, the infiltration previously having been limited to the vocal processes and interarytenoid fold. He received tuberculin R in minute doses, but the arrest culminated only after subsequent prolonged open air living in the West.

Summary.—The time since the beginning of the laryngeal tuberculosis has been nine years. The duration of the arrest has been seven years and the patient is living at this date.

CASE 7.—Mrs. O. P. A. resorted at once to the open life by removal to the west, receiving no other treatment. The infiltration had been distinct but limited to the vocal cords. The patient reports annually.

Summary.—The duration of the arrest has been four years and the patient is living at this date.

In the next group of five cases, the evidence is complete with reference to the final "arrest," but not quite so respecting the first diagnosis, my observations having been limited to the periods after the arrest, but I was able to observe the residual hyperplasia and a few small scars and depressions in the tissue, left by the ulceration. None of the patients ever suffered any relapse in the larynx, but they died of the underlying pulmonary tuberculosis at the length of four, five, nine, ten and eleven years, respectively, after an arrest of the laryngeal complication had taken place, its date having been fixed by the cessation of symptoms and the statements of former physicians, some of whom were able to certify also to the original diagnosis. The only doubt in this group would concern the possible coexistence in the larynx of syphilis, a combination which would be unusual in so large a proportion of cases. An additional case is purposely excluded, although tuberculous in the larynx and lungs, for the reason that the breadth of scar tissue and its site at the borders of the epiglottis did suggest a possible coexisting syphilis, notwithstanding the history and physical signs were those of tuberculosis. It is obvious, therefore, that I have not been unmindful of the fact recently stated anew by Grunwald, that diagnostic "confusion with tertiary ulceration and still more with syphilitic infiltration and perichondritis are to be feared, even hemorrhage being not rarely an early symptom of the tertiary infiltration of the mucous membranes," but I believe this ancient error has not been permitted to vitiate the value of this group of arrests.

CASE 8.—Mr. B. was examined in 1895, the laryngeal disease being then of two years' duration and already in a state approaching arrest. There was residual interarytenoid hyperplasia and cicatricial indentation of one cord, representing a loss of substance from ulceration, which had healed. He had already regained his voice and was able thereafter for nine years to use it as a teacher in a school of acting.

The time from the begining of the pulmonary tuberculosis was eleven years. The duration of the arrest of the laryngeal tuberculosis was nine years.

CASE 9.—Mr. Fred. B. of Texas, when examined in 1893, had infiltration of the arytenoids and fold, the disease being then in a state approaching arrest. His son, answering my inquiry, states that the throat remained well until death ensued from tuberculosis of the bladder, seven years afterward.

The duration of the arrest was seven years to date of death.

CASE 10.—Mr. C., examined in 1894, had multiple small cicatricial indentations of one ventricular band, the ulcers having healed. There was no recurrence in the larynx during a period of five years up to the time of his demise from an acute relapse of an old-standing evident pulmonary tuberculosis. Verification was furnished by Dr. Staples of Dubuque, who had persistently treated the laryngeal ulcerations with menthol in olive oil during two years until they were healed.

The duration of the arrest was five years to date of death.

CASE 11.—In 1891, while on a visit in New Mexico, I examined Mr. S., an active business man, whose sallow complexion and sepulchral voice had attracted my notice and who was pointed out to me as a marvelous climatic recovery, then of eleven years' standing, from laryngopulmonary tuberculosis. The examination, which he courteously permitted, left no doubt that the still perceptible but healed distortion of the larynx represented a former tuberculosis in a state of arrest. He died some years later, but without having suffered any recurrence in the larynx.

The duration of the arrest was at least fifteen years to date of death.

CASE 12.—Miss W. exhibited at first only a pair of typical "singers' nodes," doubtless due to forcing the voice in kindergarten work, during that period of enfeeblement of the larynx which is common to initial tuberculosis, inasmuch as six months later there was present a characteristic tuberculous hyperplasia of the ventricular band, a pyriform swelling of one arytenoid and pain on swallowing. But at this stage, notwithstanding the disease in the lungs subsequently progressed to a fatal issue within five years, all further development in the larynx ceased under the influence of a year's life in the open air and retrogression took place to the degree that all subjective symptoms referable to the larynx subsided permanently.

The duration of the arrest was four years to the date of death.

PRINCIPLES OF TREATMENT

Local Treatment.—The treatment of tuberculosis of the larynx is a chapter of deep gloom in medicine and its surgical treatment after two decades of indiscriminate application stands to-day in little better repute; but the foregoing analysis shows that the prognosis is not absolutely bad and it indicates that if the malady be early recognized, in all its seriousness, and persistently but wisely managed with respect to the type, the results will be far better. To paraphrase a previous statement, so general is our misconception, based on the rapidly fatal course in the non-resistant type (two-fifths), that I was myself surprised and encouraged on counting up as many as 20 per cent. of recoveries or arrests (one-fifth), aside from the many others of an inherently hopeful type (two-fifths).

Intralaryngeal Surgical Treatments.—These were made in several, but particularly in the two indubitable cases depicted in Figures 3 to 5, in each of which an arrest with retrogression followed to a degree the most striking and complete. The treatments consisted of excision of circumscribed infiltrations by punch forceps and of sharp curettage of granulomatous and ulcerated areas, methods which require special skill and selection of cases, but which, in the resistant types, for lesions which are reasonably accessible and not too diffused nor too deeply seated, are capable in isolated instances of inaugurating recovery or prolonging life. Likewise the abscission of a tuberculous epiglottis is a beneficent measure, if only for the removal of an agonizing im-

pediment to the swallowing of food. On the other hand, to attempt any of these methods in patients of the non-resistant type is but to court opprobrium and to invite disaster. Although the type be suitable, lest the way be opened to mixed infection and disintegration thereby hastened, one should hesitate to sever by operation a previously unbroken, moderately smooth surface which overlies a diffused tuberculous infiltration; such a condition, for instance, as is represented in Figure 2, in which I refrained for this reason from excising even a fragment for microscopic examination. I feel little hesitation, however, in primarily breaking through a granulomatous, vegetating or papillomatous surface which surmounts a moderately circumscribed infiltration.

The Method by Galvanocautery Deep Punctures.—This I have long employed, but usually only for exceptional reasons, but it is now being earnestly advocated by experienced operators[1] as the most generally applicable, far-reaching and efficient of minor surgical means. In two patients in whom I repeatedly applied it with thoroughness, in one for pronounced interarytenoid infiltration amounting almost to a tumor, in the other for diffused verrucous hyperplasia, the escharotic loss of substance after each slough had separated would appear itself to be of small extent, but it had the advantage of reaching deeply into the infected structures, and the inflammatory reactions, although not very severe, seemed to exert an absorbent effect on the tuberculous hyperplasia throughout an area extending considerably beyond that of the actual caustic destruction. Both of the cases made temporary arrests, but subsequently passed from my observation, and hence are not among those above enumerated in that class.

At the end of a course of surgical treatment, whether by galvanocautery or cutting instruments, it should be realized that minor areas of residual hyperplasia will still remain and some deeply-seated foci of infection survive, so that a relapse is to be expected unless increased resistance is cultivated, preferably by life in the open air with all thereby implied, which in the 20 per cent. of arrests described exerted a powerful curative influence.

Lactic Acid and Creosote.—Lactic acid in strength of 10 to 90 per cent., applied by cotton friction and creosote by submucous injection, being somewhat escharotic in their effects, may be classed with surgical methods as requiring an equal discrimination in use. Lactic acid tends to heal ulceration and it is an adjuvant to curettage, a practical individual test of its efficacy being a reasonable toleration of the painfulness of its application and a prompt amelioration of the painfulness of the disease. At present formalin, 0.25 to 1 per cent., preferably by a deeply-reaching spray, is coming to replace lactic acid, the same test being a useful guide in its use.

Radical External Operations.—Grunwald[1] collates cases of 73 operations by European surgeons, access for excision of the diseased parts being in most of them made by laryngofissure. Of the patients 75 per cent. had died within a year or so after the operation and only 8 per cent. had recovered and remained well for over two years. Nevertheless, in this small number of recoveries were several brilliant ones in which the patient's general condition having been still good he had been faced by death from suffocation or inanition in consequence of laryngeal tumefaction, perichondritis or ulceration. Tuberculous tumors, in conjunction with other lesions, predominate in this list of recoveries which followed external operations. Such, in brief, are the conditions which, in my opinion, may justify an external operation, while in the absence of urgent laryngeal symptoms or in the presence of advanced lung disease an external radical operation can be but rarely indicated. Impending suffocation in the presence of advanced lung disease is appropriately met by tracheotomy.

Local Medicinal Treatment.—Although this may seem to have exerted but a minor effect in those cases in which the tuberculous process in the larynx eventually became arrested, nevertheless it is always helpful and sometimes it is indispensable.

Formalin and Lactic Acid.—These have already been mentioned as adjuvants to surgical measures. Also, they tend to promote the cicatrization of ulcers, perhaps succeeding brilliantly or again failing utterly, but they have little or no effect on unbroken infiltrations; and as their primary irritation is not well tolerated in the non-resistant type, it is well, in using either medicament, to abide by the test of its efficacy previously given.

Mentholated Emollient Spray.—A spray containing menthol 0.25, the oils of eucalyptus and gaultheria each 1 in yellow vaselin oil 100, is within limits, a sedative to cough and pain and is suitable for home use. To it may be added, to exalt its sedative effect, the uncombined alkaloid cocain 0.1 to 0.2, previously made in solution with olive oil 5.00 to 10.00, the pure alkaloid being selected because its hydrochlorid is not soluble in fixed oils. For severe cough and pain, a mixture of powdered cocain hydrochlorid 0.5 and powdered orthoform 100, insufflated in the dose of 0.5 gm. twice daily, affords the greatest relief, provided care be taken that the insufflation reach the interior of the larynx. Cocain, even in this harmlessly minute dose, is unrivaled in momentary effectiveness, but given alone is too evanescent, while the sedation by orthoform alone is too mild in degree, but is of several hours' duration. To the mixture of the two may be added, further, codein sulphate 0.5 to 100. It is unfortunate that skilled service is usually required to insufflate the larynx effectively; when this is not available and self-insufflation fails, orthoform in egg-emulsion, applied by means of a coarse spray or a syringe, ranks next, but is troublesome in use, so I usually substitute for it the mentholated and cocainized oil spray, adding orthoform, placed in suspension each time by shaking.

Systemic Treatment.—Practical experience is still limited with the treatment of laryngeal cases by tuberculin in the minute dose of a thousandth of a milligram and by other vaccines and serums, the scientific purpose of which is to augment resistance as measured preferably by the opsonic index, but it presents an encouraging outlook, and in the few cases so treated under my observation the tuberculin seemed helpful, in one decidedly so, and in none did it seem in any way detrimental.

In the resistant types, the three cardinal principles, rest, open-air living and forced feeding, should be even more rigorously enforced than in lung disease alone, as the chance for life is a more desperate one. By "rest" should be understood, not only rest of body and mind, but rest to the voice and rest from the exactions of

1. Grunwald: Die Therapie der Kehlkopf Tuberculosis, Lehmann's Verlag, Munich, 1907.

business. Rest is first named because it is of first importance, compliance with the other two cardinal principles being dependent on it. I have found business the major impediment to home treatment. It takes the courage of conviction to advise the sacrifice of a man's ambition, to say naught of his income, and yet it must be done or all other efforts, being deemed subservient to business stress, become but half-way measures; no hours are kept and no advice followed except as business permits. Mr. E. Z. was advised to this effect, made the sacrifice and reaped his reward in restoration to health and business capacity. Moreover, rest to the voice is so essential that business dictations must be strictly enjoined and even social conversations should be limited. In the treatment of tuberculosis of any other joint, as, for instance, the knee or hip, immobilization is quite the rule; why not so in the larynx?

It is good management at critical periods, and at some but not all other times, for laryngopulmonary patients to remain where skilful local treatment is available; hence, usually at or near their home city: and this plan becomes more feasible as the knowledge spreads that it is fresh air rather than any particular kind of fresh air which is required, and also more acceptable to patients since the inhospitable legend, "No case of tuberculosis received," is now so commonly found posted at resorts. Nevertheless, in the 20 per cent. of "arrests" which my series affords, it is evident that, following the completion, for a time, of the local treatment, a powerful curative influence was exerted by life in the open air, and, as this mode can be carried out with less friction amid sunshine and dryness, I have recommended at suitable periods, for the resistant types, a resort to favorable climates, giving preference to localities where, when needed, a continuation of local treatment is available, for by means of it the oft intensified distress of the patient can at least be greatly ameliorated. In fact, as it is impracticable in the long run for two physicians to be retained, it is proper to lay special stress in this connection on the recommendation that as soon as laryngeal tuberculosis is found to complicate a pulmonary case, the treatment not alone of the larynx, but of the disease as a whole, should be entrusted to one who is skilled in laryngeal technic, for the laryngeal involvement is the immediate life-threatening factor in the case and only in this way can the natural resistance of the patient be conserved and the general management of this especially desperate combination, laryngopulmonary tuberculosis, be placed in line with the present widespread determination, of which this congress is an exponent, to moderate the misery and mortality of the great white plague. Mr. E. Z. secured a house with grounds in a near-by suburb, where he fitted up a corner sleeping porch, equipped himself adequately for bodily warmth and, notwithstanding the severity of the winter season at Chicago, slept out of doors every night throughout the year, not excluding the wildest nights of wind and storm. Such an extreme limit of night exposure, however, is not usually commendable and may be positively detrimental. Laryngopulmonary patients, of the non-resistant type especially, can not endure inclement night exposure, as in them it tends, by aggravating the irritability of the larynx, to increase the pain in swallowing and to cut down the nourishment. At first on sleeping out, even the average cold at night and the early morning dampness generally excite coughing spells, but the resistant types soon harden to a reasonable degree of cold, beyond which point discretion is the better part of valor.

CONCLUSION

The following points have been shown:

1. Tuberculous hyperplasia in the larynx has not infrequently undergone resolution, in whole or in part.
2. Unmistakable tuberculous ulcers have occasionally healed and remained healed.
3. Favorable negative qualities have characterized in common the cases which have proven to be capable of arrest or recovery; for instance, the laryngeal hyperplasia has been less progressive, less diffused and less prone to ulceration; the underlying pulmonary infection has been less extended; there were fewer tubercle bacilli, a lower pulse rate and less emaciation.
4. These qualities persisting, the cases which are capable at least of a hopeful resistance, can be differentiated, thus justifying every effort at any sacrifice to invoke the methods likely to arrest the disease and lead to recovery, including intralaryngeal surgery when the lesions in degree and kind are suitable for it.
5. In like manner the non-resistant type should be recognized and those patients guarded from the privation and distress which surely follow in the wake of an indiscriminate exposure to the elements and to the hardships of travel in distant climes. In them surgery is contraindicated, excepting to prevent air hunger and suffocation or to prevent starvation by the removal of some particularly painful impediment in swallowing.

34 Washington Street.

ENLARGEMENT OF NASAL SINUSES IN YOUNG CHILDREN BY ORTHODONTIA

RESULTS IN A NUMBER OF CASES *

E. A. BOGUE, M.D.
NEW YORK

My friend, Dr. G. V. I. Brown, of Milwaukee, in his excellent paper read before this section last year, refers to having used direct and rapid pressure to expand the maxillæ for some years prior to the report on this subject made by Dr. Nelson M. Black, also of Milwaukee, in 1901. Dr. Charles E. Quimby, of New York, reported one of his cases before the Academy of Medicine in 1903, in which report he described the straightening of the nasal septum by means of an apparatus constructed and attached by himself, which had opened the suture of the upper maxillæ.[1]

Dr. W. Pfaff, court dentist at Dresden, Germany, in 1904, read a paper at the Congress in St. Louis, entitled "Stenosis of the Nasal Cavity Caused by the Contraction of the Palate and Abnormal Position of the Teeth; Treatment by Expansion of the Maxillæ."

In 1905 I read a paper at the annual meeting of the British Medical Association, entitled "The Influence on Development of Arranging Irregularly Placed Teeth into Normal Positions."

The incentive to the preparation of this 1905 paper was the success that had seemed to follow certain opera-

* Read in the Section on Stomatology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

1. In "Irregularities of the Teeth" by Dr. Eugene S. Talbot, 1901, page 74, attention is called to fourteen cases in which he opened the suture in children from twelve to sixteen years of age, previous to 1894.

tions on the temporary teeth of young children, which operations I began in 1899, and have been following up ever since.

These operations consisted in gradually spreading the arches of temporary teeth, when it became evident that Nature was not doing the work herself, thus carrying outward to the proper places the crypts of the permanent teeth, which then erupted more nearly where they belonged.

As a result of these operations I noticed in every case what seemed to me an increased development in the nasal passages, a straightening of the nasal septum, and a diminished tendency to take cold. I need not mention further the marked improvement in personal appearance, beauty, sonorousness of voice and ability to enunciate clearly and distinctly, as well as to masticate properly, and to have clean teeth not predisposed to decay.

Distrusting my own powers of observation, I began in 1906 to request assistance from several rhinologists, who were better able to make these observations than I, and who were at the same time unbiased.

These physicians have examined several children before anything was done to their dental arches; and later, when I had accomplished about all the spreading that I intended, they have in several cases examined again.

I shall have the honor to present at this time a report on two or three of these cases in which the arches could not have been subjected to rapid spreading, as the work was done on the temporary teeth. At the same time I shall report on some other cases that might have been subjected to rapid spreading with advantage, but for certain reasons it was thought best to work with the ordinary expansion arch. The results certainly are gratifying, although they seem to differ from the conclusions of Dr. Faught, even as Dr. Nelson Black in his paper before this section last year found his "clinical results entirely to disprove" Dr. Faught's assertion that expansion methods could not relieve stenosis due to adenoids or septal irregularities.

I have in perhaps twenty or thirty cases succeeded in relieving nasal stenosis by gradual expansion of the arches of temporary teeth, promoting thereby nasal breathing, which function, when it is performed, tends to produce a normally widened nasal passage. I shall allude to two apparent exceptions to this during my report.

My conclusion is that in those cases in which a rapid spreading of the upper maxillary is applicable—that is, in which permanent teeth are sufficiently developed and erupted for the operator to be able to attach his apparatus firmly and to apply the necessary force promptly—that method is distinctly preferable for the correction of the class of nasal stenoses that has been under discussion, and for the reasons given by Dr. Brown last year.

When, however, the difficulty is recognized early enough to have it corrected by means of apparatus attached to the *temporary* teeth, I have found that the latter method, being to a great extent preventive, becomes distinctly preferable.

When slight pressure is brought to bear in these regions to overcome the "restrictions in the region of the palate and alveolar structures," it is in the direction of normality that the pressure is applied, hence the resumption of the proper functions of the parts is soon brought about, and with the performance of function comes development, and it comes so easily in many cases that we hardly realize that the deformity has been overcome until we see before us a normal condition.

On Nov. 10, 1906, Dr. T. Passmore Berens examined a little girl, 9 years 9 months old, and made the following note:

L. G. protruding upper teeth; rather high arch to the palate; nose shows deflection of the cartilaginous septum, extending into the vomer and perpendicular plate of the ethmoid, the deflection occupying the whole of the middle meatus of the nose from just above the anterior end of the inferior turbinate and causing a strong contact between the septum and the middle turbinate; tonsils present, but not enlarged; but very slight adenoid tissue in the vault of the pharynx. Left side of the septum shows a concavity of the deflection to the right.

On March 14, 1908, came the following report in regard to the same patient:

I have just examined L. G.'s nose, and find a most marked difference in her nasal septum in that it is now almost straight, and whereas before it was deflected sufficiently to be in contact with the left middle turbinate there is now perfectly free breathing space between these two parts. The concavity that was present on the right side is practically lacking.

Dr. Berens, on April 4, 1908, examined the nose of a little girl, 14 years of age, and wrote:

Examination revealed a sigmoid deflection of the septum, the main portion of the deflection being high up on the right side, where the cartilaginous septum is in contact with the middle turbinate. The middle turbinate is not enlarged. The septum on the left side curls into the inferior meatus by a sharp edge occupies about one-third of the inferior meatus, and gradually diminishes to become lost in the vomer. There is a slight thickening of the septum on the right side near the floor.

April 21, 1909, the record of Dr. Berens' examination of this patient reads:

The effect on the nasal septum is very marked. In fact, the deflection that was present is now almost entirely absent, although the thickening on both sides persists.

The septum has almost entirely straightened, and this straightening necessarily has resulted in a complete opening of the nostril that was almost occluded by the previous deflection of the septum, so that I now consider the nasal passages to be in a normal condition.

The next is an experimental case: Miss J.J., aged 16; first examined by Dr. W. Sohier Bryant:

April 10, 1907: Nose and mouth-breather. Marked nasal insufficiency. Developmental nasal occlusions 3.9 mm. maximum nasal compressibility at edge of nasal bones; 2.3 cm. from apex of nasal arch to apex of spine of superior maxillary. Nasal orifices measured 4.7 mm. by 11.0 mm.

May 13, 1907: Nasal breathing easier.

June 13, 1907: Still further improvement in nasal capacity.

Oct. 21, 1907: Nasal air supply sufficient. Nasal fossæ and nares well open.

Nov. 1, 1907: Breathes well through nose most of the time. Nasal orifices, 5.5 mm. x 14.0 mm. Can get more than enough air through nose. Three cm. from apex of nasal arch to spine of superior maxillary bone. The dilator nasi motionless.

From the above observations, extending over six and one-half months, we see that the capacity of the nose increased greatly during the time the patient was under treatment for expansion of the dental arch.

The next case is that of a little boy, 7½ years old, for whom it was determined to spread the dental arches without removing the adenoids, his father recognizing no need for such procedure. Dr. Bryant's report is:

Feb. 18, 1907: Nasal insufficiency, but a nose-breather. Narrow, slightly vaulted palate. Nasal septum showed spur on the left side. Hypertrophied tonsils and adenoids.

May 3, 1907: Nasal breathing slightly improved. Adenoids and hypertrophied tonsils, and mucopurulent nasopharyngitis.

Feb. 11, 1909: Palate seems normally developed. Septum appears straight. No spur. Nasal fossæ large. Free nasal breathing.

From the appearance of the patient when I first examined him I expected that the nasal breathing would continue to deteriorate and that the nasal septum would become more irregular. Contrary to this expectation, when I saw the patient on February 11, the nasal breathing was much improved, and the nasal septum was normal. The patient still had hypertrophied tonsils and adenoids.

Dr. Charles E. Quimby writes:

The possibility of straightening more or less the bony nasal septum through change in the relations of the superior maxillæ is no longer open for discussion so far as I am concerned. I have done it. In the case reported the deformity was purely developmental and the result has been perfect and permanent restoration of nasal respiration. Any "spreading of the upper dental arch" which changes the relations of the maxillæ must affect the nasal septum. In my case the maxillæ were separated by apparatus acting on the teeth, as shown not simply by separation of the central incisors but by opening of the suture the entire length of the hard palate. In another case under my observation change in the dental arch was followed by slight enlargement of the nasal meatus, but without change in the septum.

It would seem obvious that this method of correcting nasal defects is applicable only to developmental deformities, and that the best results will be obtained before the maxillary suture is finally closed.

My two cases that seem to be exceptions were these: A little girl, whose arches I began to spread when she was 7½ years of age, improved in health and strength and ruddiness constantly for two years from the time the apparatus was first put on. Letters from her father and her mother allude to this because they both were apprehensive that the strain would be too great for the child, who had scarcely recovered from a severe and dangerous illness. They were kind enough to write me of her good condition, and that she had not suffered a day during the operation. I was correspondingly pleased. I have just learned (after three years) that her father, who is a physician, finds the inferior turbinates hypertrophied on both sides, "so much so as to nearly meet the septum. On the right side the middle turbinate is in contact with the septum," and he fears an operation may be necessary.

The other case was that of a boy, about 15 years of age, who was brought to me by Dr. Bryant to inquire why there was still a deviated septum after the boy had undergone in Boston the ordinary operations for regulating the teeth.

A careful examination with measurements very soon revealed the fact that, while the teeth had, indeed, been regulated the arches had not been spread at all; hence there could have been no enlargement of the nasal passages or straightening of the septum, and I recommended the application of direct pressure by means of a screw and the prompt separation of the maxillæ.

Epitomizing my experiences and those of all whom I have consulted, it would seem that the best results obtainable, both for nasal passages and the dental arches, are those which follow on orthopedic or orthodontic operations, commenced as early as the diagnosis can be clearly made; and these operations are accomplished by gradual pressure, stimulating normal growth; but when the child has reached 15 or 16 years of age or more the nasal septum is most promptly and easily straightened by the application of positive force, rapidly applied, and retained until the nasal troubles are remedied, after which the dental arches can have the ordinary orthodontic treatment, which they may then be found to need, involving the osteoclastic changes on the further side of the pressure, with corresponding building-up on the hither side.

Since writing the above, two letters have been received—one from Dr. John J. Cronin regarding a little patient of his, 6 years old, supposed to be a perfectly healthy baby until attention was called to the fact that his temporary teeth were a little crowded, and that the permanent teeth would have difficulty in erupting properly. An examination revealed ten or more cavities in these temporary teeth requiring fillings.

The one thing that marred the picture was that seemingly insufficient exposure would often result in attacks of croup. A spreading apparatus was applied to the temporary teeth. After about ninety days the doctor writes:

The spreading of his dental arches is synchronous with a less irritable disposition. He has not had an attack of croup in the past three months, and, as far as one in good general practice can judge, there has been more croup than usually comes. The boy's general aspect has changed, and there can be no question that his nervous balance is greatly enhanced. The apparatus at no time has caused him the slightest inconvenience. From a thin peaked-faced child the boy has developed into a broad square-jawed individual. The nasal chambers have increased in size. I regret I could not follow out your request to measure the chambers before and after, as when I first visited the instrument shop they did not have the calipers.

The other letter to which I am permitted to refer is from Dr. W. K. Rogers, of Columbus, Ohio, to Dr. C. A. Hawley, now of Washington. Dr. Rogers writes:

The W. children, whose adenoids and tonsils I removed a year ago, were brought in for observation to-day (April 23, 1909). It is worthy of note that in the older child whose upper alveolar arch you have been treating, and in whom, as well as the younger, there was a distinct element of nasal stenosis when I first saw them, improvement in nasal respiration has been much more marked than in the younger child, for whom you have only just instituted this procedure.

63 West Forty-eighth Street.

ABSTRACT OF DISCUSSION

DR. EUGENE TALBOT, Chicago: If the essayist had intended to take up the literature on the subject, it is strange he should not mention the 14 or 15 cases I recorded in the nineties in my work on "Osseous Deformities of the Head, Face, Jaws and Teeth" and "Irregularities of the Teeth." They were the first 14 cases ever placed on record. This operation is becoming one of the greatest for the relief of humanity.

DR. J. H. W. RHEIN, New York City: I want to echo the sentiments of Dr. Talbot on this matter, that the value of presenting this treatment, not only to the laryngologist and the general practitioner, but to the world at large, is of inestimable value in the correction of one of the most unfortunate deformities that we find in childhood. I do not know whether Dr. Bogue intended to present this as something novel, for not only is the work of Dr. Talbot in this respect well-known, but these results have certainly been understood in our specialty for the past twenty-five years and have been more or less generally practiced. My record books will show a number of cases of children started as early as these for the accomplishment of this result. I do not believe there is anything new in the past ten years in the handling of the jaws before the eruption of the permanent teeth. A number of the older men are constantly decrying the handling of the jaws of children before the permanent teeth are erupted, claiming that our interference in this respect is frequently called for before we see what nature will do for the child, but

it is the history of such cases as portrayed by Dr. Bogue that should put an end to criticism of this kind, because nothing is going to be more beneficial in the physical improvement of the individual than to eliminate insufficient breathing as early as possible in life.

DR. GEORGE V. I. BROWN, Milwaukee: Dr. Bogue's measurements show that he does get results. Fine spun theories are all very nice, but exceedingly busy men have not time to go into the details of these matters. They want things done so that they can recognize them, and done promptly. I was glad to hear Dr. Bogue report some cases that were not so successful. He has given us much food for thought in this direction. The fact that in one of his cases there appeared to be a tendency to reversion to the original condition, when it was apparently cured, is exceedingly interesting. I hope Dr. Bogue will follow this case up, determine the final results, and report later.

DR. ARTHUR ZENTLER, New York City: I happened a short time ago to speak to the former director of the Metropolitan Opera House School for voice production. This lady told me that whenever a young pupil applying for admission had defective sounds, she sent the applicants to the rhinologist for examination. After a time she found such improvements that she inquired what caused such good results. The rhinologist replied: "I send them to the orthodontist to spread the dental arch and get a larger opening into the nasal passages." I think this statement shows as much as possible the results Dr. Bogue has spoken of.

DR. E. A. BOGUE, New York City: My only object in writing the paper was to bring testimony. As Dr. Rhein has stated, there is nothing new in it, but so many were inclined to cast discredit on the statements made by some orthodontists that I thought it worth while to get the testimony of the rhinologist who is entirely impartial. The only other feature worth mentioning was the one that my friend Dr. Brown mentioned in his paper, that this work can be done when rapid spreading is not possible.

CONSERVATIVE SURGERY FOR THE TREATMENT OF DISEASES OF THE MANDIBLE *

THOMAS L. GILMER, M.D.
CHICAGO

Exsection and resection of the mandible are followed by greater mutilation and disfigurement than follow any other oral or facial surgery. When the continuity of the lower jaw is broken by the removal of considerable sections of the bone, facial deformity is at once and permanently made, and no means of restoration by prosthesis, or otherwise, has as yet been suggested or employed, which meets the demands either cosmetically or functionally in any degree satisfactorily, either to the surgeon or to the patient. This statement may be qualified in a slight degree by excluding a few cases in which only a small section of the mandible has been removed in the anterior part of the bone, and there are present in the two fragments of the jaw a number of good sound teeth firmly set to which a bridge may be secured; and even in such cases, owing to the heavy strain to which such teeth will be subjected, it is unreasonable to expect them to withstand permanently the necessary strain of mastication without finally becoming loosened and lost.

Those who have made staying appliances for this purpose realize the many difficulties in the way. Muscular force necessary for ordinary mastication exceeds the strength of any rigidly applied fixture. That such fixtures are frequently broken by the patient, even when they are most scientifically and carefully constructed, is well known. Muscular traction on the remaining portions of an exsected mandible, in ordinary mastication, causes an outward rotation at the base of the bone, through the action of the masseter muscle on closure of the mouth, and the mylohyoid muscle turns the base of the jaw inward when the mouth is opened. If a rigid appliance is used for the support of the two remaining portions of the jaw, the metal employed for this purpose, if used in size practicable in the mouth, will, by reason of long continuous strain, crystallize and break, no matter of what metal it may be constructed. To construct such an appliance sufficiently strong to withstand mastication and not to loosen the teeth, joint must be employed on each side so that the two parts of the bone may have some free movement, thereby putting less strain on the metal connection and teeth to which it is attached.

As you will note, reference has been made to prosthesis for the most favorable cases only, that is those in which a section has been removed from the anterior portion of the jaw. If the continuity has been broken by removal of a considerable section in the posterior portion of the jaw on one side or the other, the difficulties are greatly increased. If the remaining portion of a jaw in such a case is supported and held in its normal position until cicatrization has been completed, about all has been done that can be done in such cases. This may be done by wiring the teeth of the longer fragment to the corresponding teeth above, or by soldering a flange to bands cemented to the teeth of the remaining portions of the lower jaw in such a manner that when the mouth is opened the flange will rest against the buccal surfaces of the upper jaw, preventing cicatricial contraction from displacing the remaining part of the bone. Even though one of these methods be adopted, the function of the remaining part of the jaw is extremely poor. Following resection of the entire body of the jaw or even one-half of it, there is little hope for artificial restoration which can promise great value, either for mastication or for cosmetics.

When the surgeon realizes the truth of the foregoing statements he should be slow in deciding on an operation so radical as exsection or resection. He should be sure that the life of the patient can be saved only by such an operation; and I am of the opinion that it is good practice, even in some malignant types of disease, unless the bone throughout its entire thickness is involved, to do an operation which will save at least a small part of the body of the jaw in its continuity, taking some risk of recurrence rather than maiming the patient for life. Take, for instance, the most prevalent type of malignant tumor of the mandible, the giant-cell sarcoma. Since in this type of sarcoma metastases are not early formed, a conservative operation may first be done, then the case subjected to ray energy and watched closely. If the growth recurs, it is not yet too late for the more radical operation.

My experience has been such that I feel fully justified in this procedure. I have, in several instances, removed most of the jaw, leaving for support a sufficient part of the bone in which the diagnosis of giant-cell sarcoma had unmistakably been made, and there has been no recurrence after a period of fifteen years. I have done a much larger number of operations of this kind for similar cases, which after several years there is no indication of return. Unless the disease has progressed so far that an entire section of the bone is involved, I save that part which appears uninvolved, and feel justified, though there should occasionally be recurrence.

* Read in the Section on Stomatology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909

Good surgery is thorough surgery, but it does not necessarily follow that surgery to be good must always be radical. Diagnosis in mandible cases is all-important. A case was shown at the Chicago Medical Society by Dr. Carl Beck in which an entire lower jaw had been removed by a surgeon for the cure of what was supposed to be a malignant affection. After the mandible, in its entirety, had been removed, it was discovered that the condition was simply one of necrosis. In this case had greater care been exercised in diagnosis and had Nature been assisted, the reformation of the jaw would have been so complete that there would have been but little deformity, and sufficient bone would have been rebuilt to support a prosthetic appliance.

In some instances in which diagnosis of necrosis of the mandible is correctly made, some surgeons feel that a radical operation is needed, and at once, before Nature has separated the dead from the living bone, proceed to perform that service for her with the result that an additional area of healthy bone is involved and in some instances destroyed. Had the case been closely watched, properly drained and irrigated, the dead bone would have been thrown off and in the meantime the osteogenetic influence of the periosteum would have been at work forming a new and serviceable jaw. If in cases of necrosis of the mandible the surgeon anticipates Nature's work and cuts away the dying bone, new bone is not formed to take its place, and permanent disfigurement and functional inactivity of the jaw is the unfortunate result.

The so-called epulis of the jaws, a benign tumor of connective tissue origin, may histologically simulate sarcoma. To remove large, or even small complete sections of the jaw in such cases, is to inflict unnecessary suffering on the patient. I have removed scores of such growths, taking with them only a part of the alveolar process, and they have not returned.

I am no advocate of temporizing with malignant neoplasms; but, to be sure of the diagnosis, then radically to remove all of the invaded tissue so far as we can judge, saving, if possible, a small part of the jaw in its continuity, is not temporizing.

For cosmetic reasons operations on the jaws, when they may be thoroughly and completely done from within the mouth, should be done that way, but if the disease is of a malignant nature a clear field with unobstructed light is necessary to enable one to judge of the extent to carry the operation, then an external incision should be made. Such incisions may usually be made in a manner to cause the minimum of disfigurement.

31 Washington Street.

ABSTRACT OF DISCUSSION

DR. GEORGE V. I. BROWN, Milwaukee: The thoroughly practical views that Dr. Gilmer has presented of the difficulties encountered in endeavoring to overcome the mutilation and disfigurement that follows resection of the mandible, based as they are on his long experience and successful results in oral surgical practice, commend themselves to our best consideration and adoption. Of course, we all know that the only hope at present for greatly benefiting growths of the more malignant types is early diagnosis and complete radical early operation at a time this may be done without total destruction of usefulness of the parts. It is no kindness to a man to resect his lower jaw, or a half or two-thirds of it for the sake of giving him the bare possibility of one or even two years additional life. I do not consider life worth living under conditions such as those in which I have seen patients endeavoring to exist after operations of that character had been performed. When the question of resection of the jaw for cancer arises in my practice and there is on the one hand perhaps the temptation to do a big operation with doubtful prognosis, the thought comes to me, "Would I desire to have that done to myself? Would I wish to live under such circumstances?" and most of the time I think that I would not.

One of my cancer patients was saved, I believe, by Dr. A. J. Ochsner, of Chicago. The growth was situated in the region of the maxillary sinus of a patient for whom I had previously done a radical operation for empyema of that sinus. At the time I was suspicious of a tiny spot not quite so large as one's little finger nail. In accordance with my custom, I had sections made and under the microscope it proved to be cancer. For several months the patient got on well. Then he had a recurrence. I knew if anything was to be done with the knife it must be a removal of the entire upper jaw. Instead of this I took the patient to Dr. Ochsner and he burned the growth out. The operation was done without an external incision. Twenty or thirty soldering irons were heated, the patient was anesthetized, and these irons thrust, one after the other, into the opening, which already existed in the sinus. This was repeated until the tissue in every direction was burned to the utmost limit that one would dare to force the iron. It was necessary to burn this patient on two different occasions and sequestra of bone came out for months afterward, but from last accounts the man was still living happily, and I feel sure that he would not have been living at this time had other methods been pursued.

I am convinced that there is no operation that can be done with the knife in the way of resecting the jaw, upper or lower, that will come so near taking out all the tissue that is malignant or has a tendency to malignancy, or will so nearly overcome the tendency to recurrence of the neoplasm, as will burning with soldering irons. This operation is disagreeable for those who operate and very much so for the patient afterward, but its great advantage lies in the fact that one could not so safely do so extensive an operation with the knife; hemorrhage in other kinds of operation would, in all probability, be very much more serious, and by this method of treatment tissue is destroyed in advance, so that it continues to slough out for a considerable period of time. Thus we have micro-organisms concerned in tissue destruction, warring against and destroying the tendency to proliferation of cancer as of other cells, and this seems to exert a beneficial influence.

With the great advancement that is being made in the study of both carcinoma and sarcoma, we all hope for better methods of treatment in the near future. In the meantime, in my opinion, there can be no question of the value of the suggestion that Dr. Gilmer has given us to-day. The same principles apply with even greater force to the treatment of necrotic conditions of the mandible, because with these the surgeon, by the skillful use of suitable instruments, proper drainage, and reasonable time to allow Nature's curative and reconstructive processes to assist, should in most instances be able to control the operative conditions sufficiently to avoid hideous external scars, and seriously deformed, more or less useless jaws that so frequently result from unnecessarily rapid improperly performed operations.

DR. T. L. GILMER, Chicago: I spoke of certain tumors of the mandible as so-called epulis. This tumor is not malignant. There is another tumor of the jaw, sarcoma, known by the same name which is malignant. Epulis is a compound Greek word meaning on the gum; therefore is not a suitable name for either growth. Neither of these growths spring from the gums, but are of connective tissue origin and usually originate in the bone or periosteum. Epulis to the pathologist means a malignant growth. It is a misleading name and should be abandoned. Microscopically some of these non-malignant growths show sarcomatous cell formation.

The stomatologist should ever be on the alert to detect disease of the mouth early. Since he is seeing the mouths of his patients frequently he may discover abnormal conditions before they have gone too far to remedy, without serious deformity or loss of life.

Desamidation.—This term, which is not to be found in the average dictionary, signifies the capacity to reduce amid nitrogen.

ANESTHETICS FOR DENTAL SURGERY *

L. G. NOEL, M.D., D.D.S.
NASHVILLE, TENN.

Dental surgery embraces so many different operations, varying so widely in the time required for their performance and in the amount of shock to the nervous system, that it necessarily calls for various agents of different degrees of potency to meet its requirements.

For prolonged narcosis we have chloroform, ether, ethyl bromid and ethyl chlorid. The record of deaths in the dental chair from chloroform is so appalling that one would think no intelligent dental surgeon would permit this agent to be used in his office, even though a physician should recommend it and assume the responsibility by his presence and performance as anesthetist.

The April number of the *Dental Cosmos* records a case of death from chloroform narcosis in the dental chair, and I have almost quoted the editor's comment above. The May number of the *Dental Brief* reports two deaths from anesthetics in the dental chair, one from chloroform; in the other case, we are left to guess what agent was used, as the reporter seems to think this a thing of minor importance. A death from chloroform in Oklahoma is recorded in the *Dental Summary* for May; thus it appears we are slow to profit by experience.

When serious surgery is to be done, and profound narcosis is required, the patient should be taken to a hospital where all proper precautions may be taken to meet the risk, and where the recumbent position may be maintained from start to finish.

In dental surgery too much recklessness has been displayed in hurrying patients through serious operations under profound anesthesia in the dental chair, and frequently without any preliminary examination of the patient to see what anesthetic should be chosen for the occasion.

If the dental surgeon feels his own incompetency to make this necessary examination of his patient, if he is not himself a physician, he should call in a medical man for the occasion; for under no circumstances should he administer profound narcotics alone and unassisted, or without the necessary preliminary examinations. I am led to indulge in this surgical platitude by seeing in a recent number of a dental journal a paper in which the author urges a more frequent and general use of anesthetics for such operations as extirpating pulps, lancing abscesses, and even excavating sensitive cavities. I can not condemn such recklessness in sufficiently strong language.

The oral surgeon will do well to content himself with such old and well-tried friends as nitrous oxid and sulphuric ether, on whose ancient and honorable record it will be good to fall back, if any trouble should arise; and of trouble he should always have a watchful fear.

In making these remarks, I hope no one will get the idea that I would discourage research in the field of anesthesia—that I would frown on all effort to discover new and better agents; by no means. I wish my remarks along this line to apply to the average oral surgeon in the pursuit of practice, not to research work.

For prolonged anesthesia, such as is required in the surgery of the face and jaws, nitrous oxid has been found a valuable agent to produce narcosis, being succeeded by sulphuric ether to maintain this condition.

This has been called Clover's method, because Mr. Clover of England was probably the first to devise a suitable apparatus for these two agents.

Clover's apparatus has been subsequently altered; but it is questionable if these alterations have resulted in very decided improvement. The advantages of this method have been set forth by Dr. C. C. Norris,[1] of Philadelphia, in a report of 150 cases, compared with 150 cases of plain etherization.

He first mentions the safety of nitrous oxid, which no one will dispute; then its successful use preliminary to ether at Guy's Hospital, London, for twelve years. Favorable report on the method in a considerable number of cases by Carter, Prevost and Kelly.[2]

Dr. Norris, in enumerating the many advantages of this method over ether alone, lays particular stress on the speed with which narcosis is induced by nitrous oxid and the small amount of ether required to maintain it.

Narcosis being speedily and promptly induced by nitrous oxid, much time is saved, and the period of excitement, usually so hard to pass with ether alone, is avoided. There is an advantage of far greater magnitude than that of the mere saving of time and ether; it is in the lessening of the ether toxemia, for much less ether is required.

In a recent number of the *Therapeutic Gazette* we find an article on general anesthetics in which Dr. F. K. Bean[3] is quoted as extolling this nitrous oxid and ether method.

A. Otte, discussing the incidence of thrombosis and other complications after ether, insists on the importance of preliminary thorough disinfection of the mouth by inhalations of thymol and salicylic acid with alcohol and hot water; this is done on the preceding night and just before operation. Morphin, one-third of a grain, is given before the inhalation. The ether is then administered in small and measured doses; the patient is covered up in blankets and the antiseptic inhalations are resumed as soon as the operation is completed. This method, it is stated, materially lessens the after-dangers of etherization.

O. B. Wright has studied the postanesthetic pulmonary complications in the Johns Hopkins Hospital. He says that pneumonia induced by etherization is of a different type from the usual form, with lower and less regular temperature and without the appearance of a true "crisis." The pulmonary signs develop later, and there is less cough and sputum. The question of the pathogenesis of ether pneumonia is fully discussed under the heads of (1) irritant action of the anesthetic (and it is pointed out that ether is more commonly the exciting cause); (2) aspiration of mucus, blood vomitus and hypersecretion from the larger bronchi (it was stated that preanesthetic injections of atropin were found valueless as a means of checking the secretion); (3) emboli which Wright believes may prove to be a factor, but only one of many; (4) direct toxic effects of the anesthetic on the heart and blood vessels (these, it is believed, are more commonly met after chloroform inhalation); (5) the presence of pneumococci and other morbid bacilli in the air-passages; (6) extension of infection from the abdomen traveling through the diaphragmatic space; (7) the cooling of the surface of the body as a result of the anesthetic; (8) limitation of thoracic movement, leading to lessening of pulmonary ventilation due to bandaging, or to the voluntary efforts

* Read in the Section on Stomatology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

1. Univ. Penn. Med. Bull., July, 1902.
2. Cosmos, xliv.
3. Lancet, London, December, 1908.

of the patient with the aim of avoiding pain caused by the thoracic excursion; (9) lessened resistance of the tissues arising from their depressed vitality. In discussing the prophylaxis, stress is laid on the strict limitation of the quantity of anesthetic inhaled and on attention to the posture of the patient.

The article cited above quotes A. E. Halstead as attributing postoperative paralysis to excessive dosage of ether. He uses morphin as a preliminary which diminishes the quantity of the anesthetic subsequently required.

For operations of short duration in oral surgery, such as extracting teeth, opening abscesses and removing pulps, nitrous oxid is the best and the safest anesthetic.

The S. S. White inhaler, devised for the administration of nitrous oxid alone or in combination with atmospheric air, is the inhaler I have used most; and I prefer it to any I have seen.

This instrument is so contrived that the operator may first accustom his patient to take deep inhalations of air; then, by a light pressure of the index-finger on a spring valve, a small amount of gas may be admitted, the amount of gas being gradually increased until the air is entirely cut off, and the patient is breathing gas alone. When duskiness of the skin under the eyes and about the lips begins to appear, or signs of distressed breathing, the pressure of the finger on this valve may be relaxed, the air is again admitted, and after relief is apparent the gas may be applied in full volume.

I used this admirable inhaler many times before I learned to control it. Although it is simple and easy to manipulate, I simply did not understand the best method of administering nitrous oxid—a method that must have been well known to the designer of this inhaler in order to produce so perfect an instrument.

This inhaler is provided with an inflatable rim that fits close over the nose and mouth.

It is also provided with a spring valve that gives exit to the expired air, and it may be connected by large tubing with a gas bag which is connected by tubing to a cylinder of condensed gas, or it may be connected with a gasometer suspended over water, which latter is to be filled either by direct decomposition of ammonium nitrate or from a bottle of condensed gas. A transparent face-piece is now made which enables the anesthetist to note the color changes in the lips, a very great improvement.

There is a distinct advantage in being able to have your patient breathe pure air for some time through the inhaler before admitting gas. It quiets the fears of nervous patients and affords opportunity to instruct in deep breathing.

No anesthetic should, in the beginning, be pressed on the patient to the entire exclusion of air.

This is eminently true of nitrous oxid, which, if turned on in full force, gives the patient a smothering sensation that is alarming to many timid people, is a real danger-signal, and, if persisted in, quickly brings on a duskiness of the skin that deepens into cyanosis with jactitation, all of which symptoms may and should be avoided. The prop being in place, the patient started breathing calmly and deeply, the operator by a slight pressure of the index-finger admits a small amount of gas, at first so little that the patient does not know when he begins to breathe the anesthetic; more and more is admitted until the spring is well down and the patient is breathing gas alone.

The operator must watch the skin under the eyes and about the mouth for the slightest sign of duskiness and when these are noted instantly lift the finger from the valve admitting a full inspiration of pure air to chase away the cloud of cyanosis, when the gas may again be admitted and soon be pressed to full volume.

With some patients these tactics must be repeated once or twice before the anesthetic may be pressed to deep narcosis.

This is the whole secret of safety in nitrous oxid anesthesia, and if this method is watchfully adhered to many patients whose physical condition would contraindicate gas may be successfully anesthetized.

In some patients of full habit, it is best not to wait for signs of cyanosis, but after a few deep inspirations of pure gas admit air and alternate until the gas may be pressed to full narcosis.

When the anesthetic is given in this way few patients will show signs of asphyxiation, and nitrous oxid is the safest of anesthetics. Combining nitrous oxid and air in this way, we get a more prolonged narcosis. There is no cyanosis, no jactitation, the patient is quiet, still, has no illusions, does not struggle, and thus the operator has a better opportunity; besides, the recovery is better. To my mind the advantages over nitrous oxid and oxygen are many.

Besides the increased safety, the apparatus is more simple, requiring no assistant to the anesthetist. The expense is far less and after-effects better.

I quote from a recent book on anesthesia[4] as follows:

> Paul Bert's experiments with nitrous oxid and air were failures, because he attempted to employ only fixed proportions.
>
> Mr. Tom Bird claims to have used air with gas as early as between 1870 and 1880.
>
> Mr. Rowell has spoken well of the plan of intermittent admissions of air.

Mr. Carter Braine devised a face-piece intended to supply a ready means of admitting a varying proportion of air. Speaking of this intermittent air supply method, Buxton concludes as follows:

> The time occupied in producing anesthesia may be a minute and a half, or two; or even three minutes, and the period of anesthesia is usually longer than when only nitrous oxid is employed.
>
> I have obtained a workable seventy seconds' [anesthesia] by this method.

No mention of any unpleasant after-effects following this method are made by Mr. Braine, but in regard to nitrous oxid and oxygen I quote the following:

> After-effects, such as languor, nausea, vomiting, headache, slight vertigo following the use of nitrous oxid diluted with oxygen are somewhat more frequent than when nitrous oxid is used alone.
>
> This is probably due in part to or entirely to the more prolonged period of induction of anesthesia. The patients are longer in recovering their wits and occasionally remain in a dazed state for some minutes. The after-effects following the use of nitrous oxid and air are practically those already described in speaking of nitrous oxid . . . conspicuous by their absence.

527½ Church Street.

Medical Missionary Work in India.—A dispensary was opened a few months ago by Dr. Lester H. Beals, a missionary of the American Board, in Wai, a city about a hundred miles south of Bombay. Ninety patients came the first day, and since then the daily attendance often exceeds 200. A considerable number of the patients need operations, especially for removal of cataracts, and more careful and prolonged treatment than is possible at a dispensary. Dr. Beals writes: "The medical destitution far exceeds anything that I supposed this part of India could furnish."

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4. Buxton: Anesthetics, p. 102.

THIRTEEN THOUSAND ADMINISTRATIONS OF NITROUS OXID WITH OXYGEN AS AN ANESTHETIC *

CHARLES K. TETER, D.D.S.
CLEVELAND, OHIO

Thirteen thousand successful administrations of nitrous oxid and oxygen by one anesthetist covering a period of nine years for practically every kind of an operation to its completion, under varying degrees of hazard, and varying in time from a few minutes to three hours, furnishes sufficient data, it seems to me, to establish to some degree, at least, the efficiency of nitrous oxid with oxygen as an anesthetic.

I realize that this declaration makes it necessary for me to provide the proof, which I am prepared to do, although, for the lack of time, it will be out of the question to review very many of the interesting cases. It will be competent, however, to select for illustration a few cases, which seem to me to substantiate my statement. If any one cares for further proof than will be set forth in this paper, the thousands of cases of which I have a record are at his disposal.

Nitrous oxid with oxygen as an anesthetic has not a very substantial record at present, owing to the limited number of cases to report on, and this makes it apparent that it is not occupying the place it should among the recognized efficient general anesthetic agents. This being the case, I desire to take up briefly some of the more important features connected with this particular anesthetic before reporting the cases I have selected.

I shall pass over the chemical and physical properties of the gases, as most, no doubt, are familiar with them.

In taking up this line of work I first employed nitrous oxid with varying percentages of air, but I found, as others have, that the character of nitrous oxid anesthesia was entirely changed by the substitution of pure oxygen for the air. As a result of this change, nitrous oxid with oxygen has been given a prominent place in surgery to-day.

The profession in general has been extremely slow in taking up nitrous oxid with oxygen as an anesthetic in general surgery, owing mainly, I think, to three factors: (1) an imperfect apparatus; (2) lack of skill in its administration; (3) the expense. Happily there have been a few of us who have devoted not only a great deal of time, but also spent considerable money in developing this form of anesthesia because we recognized its well-known pleasantness and safety.

The first reports that we have of cases in which oxygen was used with nitrous oxid in producing anesthesia were made by Dr. E. Andrews of Chicago, in 1868, but he did not use it to any extent nor did he get any one interested in it at that time. It was ten years later that Paul Burt of France went into this subject thoroughly. He carried out some elaborate and expensive experiments, but he was laboring under a wrong theory, so his methods were never adopted. Dr. Burt proved, however, that nitrous oxid was a true anesthetic, and that asphyxiation was only concomitant, and not the cause that produced anesthesia. Dr. Frederick W. Hewitt of London has done more to bring this anesthetic before the profession than any one man. His book, "Anesthetics and Their Administration," is the best on the subject that has ever been published. He has had very extensive experience with all anesthetics, as he has devoted his energies exclusively to anesthetics for a long time. He, however, has not had the experience with this particular anesthetic that some men in America have. He has used it only in slight operations and of short duration. The longest time that he speaks of administering it continuously was fifty-two minutes for a minor case for the dressing of a wound and adjusting splints. The list of operations in which he employed nitrous oxid and oxygen are given by him as follows: "Syme's amputation, lithotrity, removal of breast, excision of varicose veins, varicocele, removal of ossicles of internal ear, resection of patella, removal of necrosed bone from a tuberculous hip, several intra-uterine operations and for a large number of minor operations." There are many men in this country who are using nitrous oxid and oxygen for practically every operation that is being done by the surgeons of to-day. The indication for nitrous oxid and oxygen as the anesthetic is not governed by the nature of the operation, but by the physical condition of the patient. When the operative risk is great, nitrous oxid with oxygen is indicated, and the mortality rate is greatly reduced.

Since the discovery of oxygen by Priestley in 1774 it has held a more or less prominent place in medicine and surgery. The effect of the inhalation of oxygen on the system is acknowledged by all to be beneficial. Brambridge says "that oxygen influences the quality of the blood, that this improvement is in the direction of an increase in the red corpuscles, that the white corpuscles are not influenced by it, and that clinically it effects a marked improvement in the patient." Oxygen is a slight respiratory and cardiac stimulant and is a specific in asphyxia. It has but little effect on blood pressure.

EFFECT OF NITROUS OXID AND OXYGEN ON THE ORGANISM

Let us now consider for a few minutes the effect of nitrous oxid and oxygen on the organism. The gas on entering the lungs is distributed throughout the alveoli and is taken up by the blood and passes to the lymph. As the nitrous oxid comes into contact with the delicate nerve cells an action is brought about that causes a temporary cessation of their functional integrity. The most highly organized centers are first and chiefly affected; but gradually all succumb until the respiratory and cardiac centers are paralyzed. The rate of absorption of nitrous oxid and oxygen will depend on numerous conditions; i. e., temperature of the gas, temperature of the blood, rate and depth of respiration, the rate of capillary flow through the walls of the alveoli. It is well known that the absorption of anesthetic vapors takes place much more readily if the temperature of the vapor when inhaled is about that of the blood. I have found that when nitrous oxid with oxygen is administered warm the patient passes into the anesthetic state more quickly, more quietly and with less disturbing effect to the respiration than when the gas is given at lower temperatures. With warm gas the patient, as a rule, gradually and quietly passes into a peaceful sleep without the least resistance. The narcosis obtained is deeper, relaxation is more complete, cyanosis is almost entirely absent, intercurrent asphyxia is less likely to be brought about by reflex stimulation from the operative manipulation, which might interfere with respiration. There will be no postoperative bronchitis or pneumonia following inhalation of warm gases. Another feature is the smaller amount of nitrous oxid required. Nitrous oxid and oxygen

* Read in the Section on Stomatology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

given at an ordinary temperature will require on an average 250 gallons of nitrous oxid and 40 gallons of oxygen for an hour's anesthesia. When the nitrous oxid with oxygen is administered warm or at about the temperature of the blood, 150 gallons of nitrous oxid and about 40 gallons of oxygen will suffice for an anesthesia lasting an hour. A smaller amount of nitrous oxid will be required for the second hour of anesthesia, but a larger amount of oxygen will be necessary.

The elimination of nitrous oxid and oxygen takes place principally through the pulmonary blood stream and respiratory tract. On the withdrawal of the anesthetic the alveolar tension falls below the blood tension, and the elimination commences. The rapidity of elimination will depend on the freedom of the air tract, the depth and efficiency of respiration, for on this good circulation depends. If a good respiration and circulation are present on the withdrawal of nitrous oxid and oxygen, recovery takes place in a very few minutes. The patient will show symptoms of recovery within sixty seconds after a profound anesthesia which may have lasted two hours, and will be conscious within three minutes. At times when poor circulation and respiration are present, recovery will be much slower, and if there has been much surgical shock recovery will be still slower. Recovery may be hastened greatly by administering pure oxygen every few inhalations.

I have used nitrous oxid with oxygen many times as the anesthetic throughout the following operations: laparotomies, consisting of hysterectomy, salpingectomy, oöphorectomy, appendicectomy, cholecystectomy, choledochotomy, gastrectomy, gastroduodenostomy, uretrosigmoidostomy. Other operations, such as abdominal Cesarean section, prostatectomy, removal of large tumors and inflammatory adhesions; radical operations for the cure of hernia, varicocele, hydrocele and orchidectomy; amputations of breasts, amputations of extremities, and a large number of thoracentesis. If this anesthetic is administered skilfully it is about ideal for the operation of thoracentesis, for a small amount of nitrous oxid will produce anesthesia and a large percentage of oxygen can be given to the starving lung. In brain surgery nitrous oxid has been especially advised against, owing largely to the asphyxiation that is concomitant with the administration of nitrous oxid and air. For while the addition of air will lessen to some extent the asphyxiation of nitrous oxid, it will not suffice to eliminate it entirely; if air is added to overcome all the asphyxiation the nitrous oxid loses its effect as an anesthetic. Nitrous oxid with varying proportions of oxygen, however, if skilfully given, is a different proposition. My experience in this line of work has been good, for I have not had a single case in which difficulties arose.

EFFECT OF NITROUS OXID ON THE BRAIN

It is interesting and very instructive to observe the effect of nitrous oxid on the brain and also the effect of the oxygen. I have noticed in the cases which I shall report later that when the patient inhales pure nitrous oxid the brain begins to lose its natural pinkish color in about fifteen seconds, and at times much sooner than this. If the inhalation is continued without air or oxygen the brain continues to become darker. If this is continued to the third stage of anesthesia, the brain will have the appearance of stagnant blood and will be greatly dilated. The dilatation is concomitant with the discoloration, and if there is much cyanosis present the brain will be greatly discolored and will protrude through the opening in the skull. What is the cause of this discoloration and dilatation? Is it the effect of the nitrous oxid, or is it simply the asphyxial element caused by anoxemia? The cause of this change was clearly shown in a case I have reported elsewhere,[1] but as it will illustrate my point here I will again refer to it.

CASE 1.—*Patient.*—A lad, aged 10, while playing on a fence in some manner fell off, landing on his head. The bruise was near the left side, causing an epidural hemorrhage. The pupil of the right eye was extensively dilated and the muscles of the same eye were paralyzd. There was not even a scalp wound. He was in a comatose condition when picked up, and continued in this condition for about twelve hours. An operation was decided on, but it was undertaken with grave fears on account of an exceedingly weak thready pulse and rapid jerky respiration.

Anesthesia.—I started the administration with about 8 parts of oxygen and 92 parts nitrous oxid, increasing the oxygen gradually until about 12 parts of oxygen and 88 parts of nitrous oxid were being given at the end of sixty seconds. The patient passed into complete surgical anesthesia within this time. Respiration became more rhythmical, the pulse became less rapid and the tension much improved: in fact, the patient was in far better condition than before the anesthetic was started. An opening the size of a half dollar was made in the skull and a large quantity of clotted blood was removed. As everything was going nicely I carried out the following experiment: On decreasing the oxygen to about 3 parts with 97 parts nitrous oxid in about ten seconds a change in color was noticed in the brain. At almost the same instant a swelling up of the brain occurred. As the anesthetic was continued the brain gradually became very dark and dilated to the extent that the entire cranial cavity was soon filled, and the brain commenced to protrude through the opening. The oxygen was increased at this point to about one-half of the mixture, and after only four inhalations it was noticed that the brain was receding and the natural color was restored rapidly. The brain had regained its normal color and position within fifteen seconds. This discoloration and dilatation were concomitant and could be brought about at will by increasing or decreasing the oxygen.

CASE 2.—*Patient.*—A man, weighing about 240 pounds, who was operated on for brain abscess. This patient was in bad condition; temperature 107; he also had degenerated vessels and heart. This anesthetic had been given him twice before; once for a frontal sinus operation and once for a mastoid operation, all within six weeks. He had taken the anesthetic nicely on the two former occasions, so it was given for this more extensive operation without much apprehension. I was able to produce a profound anesthesia with about 90 parts nitrous oxid to 10 parts oxygen from the start, gradually increasing the oxygen to 15 parts within the first two minutes. The patient passed into profound anesthesia within two minutes. When the skull was opened I had good anesthesia without any cyanosis or other asphyxial symptoms and the brain was of good color and not dilated. I kept an even anesthesia throughout and had no change of color or dilatation of the brain at any time.

All of my brain operations show the same phenomenon. If the anesthesia is accompanied by cyanosis, the brain will be not only dark in color, but dilated as well. Consequently I affirm that the dilatation and congestion were not due, *per se*, to the anesthetic action of nitrous oxid, but constitute an entirely asphyxial manifestation. The asphyxial factor may enter into any anesthesia, and if it does the afore-mentioned phenomenon will be present, whether the anesthetic agent be chloroform, ether, or nitrous oxid. It is more apt to accompany nitrous oxid than any of the other anesthetic agents, from the fact that nitrous oxid has to be administered almost in its pure state. The asphyxiation

1. Read at the thirty-ninth annual meeting of the Pennsylvania State Dental Society, Pittsburg, July 9, 1907.

that we have with nitrous oxid anesthesia is not dangerous, however, as compared with that produced by ether or chloroform. In brain surgery nitrous oxid alone or administered with air is not a good anesthetic; but nitrous oxid with varying proportions of oxygen is without question a good anesthetic in brain surgery.

CASES SHOWING SPECIAL POINTS

I will mention a few cases in order to show some points of special interest, such as length of narcosis, extreme ages of patients, physical condition, primary shock and fatality.

Under length of narcosis, I have the following cases:

CASE 3.—*Patient.*—Mrs. S., aged 32; very nervous; somewhat emaciated; valvular insufficiency; compensation fairly good.

Operation.—Hysterectomy, appendicectomy. Hemorrhage profuse and troublesome. The uterus contained a fibroid tumor weighing 22 pounds.

Anesthesia.—Induced in two minutes; some reflex effect on respiration when incision was made, but no other movement of patient. Profound anesthesia was easily maintained with about 88 parts nitrous oxid and 12 parts oxygen. This amount varied somewhat but was about the average. Anesthesia was maintained without one breath of air or other anesthetic. Pulse at the beginning was 98, at the close just before the anesthetic was removed 112. General condition good under the circumstances.

Postoperative Condition and History.—Consciousness was regained within three minutes. Patient vomited during recovery only; no more sickness. Length of operation, three hours and four minutes.

CASE 4.—*Patient.*—Mrs. G., aged 45; nervous temperament; general condition fairly good, but the patient had suffered for years from pelvic trouble and chronic gastritis accompanied by severe vomiting. Nitrous oxid with oxygen indicated on account of the gastric disturbance.

Operation.—Patient was found to have a large intraligamentary cyst, complicated by dense and extensive adhesions, with an involvement of both tubes. A double salpingectomy was performed, together with removal of the cyst and adhesions. Bleeding from the denuded surfaces was very troublesome, making the operation a long one. The patient was given morphin 1/6 gr. and atropin 1/150 gr. one-half hour before the operation. The morphin and atropin was given on account of certain conditions that indicated that the patient was not susceptible to anesthetics and complete relaxation was imperative, which we wanted to obtain without the aid of ether.

Anesthesia.—The patient was anesthetized in about three minutes. There was a certain amount of cyanosis present and some rigidity during the first fifteen minutes. After this time a good color and complete relaxation was obtained throughout the operation, which lasted two hours and forty-eight minutes. The pulse remained good, being at the close only a little faster than at the beginning, and was full and strong.

Postoperative Condition.—Patient regained consciousness within five minutes. Nausea and other postanesthetic complications were entirely absent.

I have had many cases in which it has been necessary for me to continue the administration of nitrous oxid and oxygen for two or three hours. As to the length of time that nitrous oxid and oxygen could be continued with safety, I believe that this anesthetic can be given longer and with less danger than any of the general anesthetics, excepting none.

In looking over the cases to ascertain the age, I find one which I think will be of interest. It is that of the youngest person to whom I ever administered nitrous oxid and oxygen, and is as follows:

CASE 5.—*Patient.*—A baby boy, whose birth was induced at the eighth month, being at the time of operation three months old. Operation, circumcision and amputation of toe.

Anesthesia.—No inhaler was used for this case, but, instead, I forced the nitrous oxid and oxygen through the tube, holding it in front of the patients mouth. Narcosis was induced in about forty seconds with a mixture of about 5 parts oxygen and 95 parts nitrous oxid. There was a certain amount of adulteration caused by the nonexclusion of the air, but, notwithstanding this, it was soon necessary to increase the percentage of oxygen in order to prevent muscular jactitation and clonic spasms. Perfect anesthesia was maintained to the completion of the operation, about thirty minutes. On the removal of this attenuated vapor recovery took place within forty seconds. The child seemed as bright as ever, and the sympathetic mother, in her anxiety, put the child to her breast at once and it nursed without any ill effects.

I have administered nitrous oxid and oxygen to over 5,000 children, principally for tonsillectomy, tonsillotomy, adenectomy, circumcision and dental extractions. For these oral operations the nasal inhaler is employed, and profound anesthesia is maintained to the completion of the operation. Available anesthetic is at the operator's command until the operation is completed, be that in two minutes or two hours.

The aged, as a rule, are good subjects for nitrous oxid and oxygen, and take it nicely. As with children, it is necessary to keep a close watch of all symptoms, for the effect of the anesthetic is very rapid in such cases. I have administered it to a great many aged people, some presenting practically no abnormality except that which would be expected in the aged, but others in which a general active and chronic degeneration was extensively manifested. In such cases, as a rule, I have been able to obtain satisfactory anesthesia and have no cause for worry. There are exceptions to this, however, and I have had my resources taxed to their utmost.

In my experience gained from 13,000 nitrous oxid and oxygen anesthesias, I have learned that it is not always best to continue with nitrous oxid and oxygen under all circumstances, for it may be next to impossible to retain the desired depth of narcosis in certain cases. In some cases it may be better to resort to a more stimulating or tolerable anesthetic either in sequence or combination.

I have had a few cases in which respiratory, cardiac and composite (Hewitt) shock was manifested during the operation, and probably more than would be met with under 13,000 average ether anesthesias, owing to the fact that nitrous oxid with oxygen was resorted to in many of these cases for the reason that there was some abnormal condition present and the operative risk was great. Under these circumstances we would expect to encounter shock quite frequently.

I have had but one fatality on the operating table, and this was a primary circulatory failure, in no way due primarily to the anesthetic. I have barely missed several, however, by the patient dying a few hours before the time set for the operation.

CASE 6.—This was one in which composite shock was met, owing to the sudden release of tension of the abdominal cavity.

Patient.—Mr. I., aged 86, obese, plethoric; senile myocarditis, and very rapid pulse (130), hard to discern in the external carotid, facial or radial arteries.

Operation.—This was performed for stone of the bladder. The abdomen was greatly distended from the retention of urine for four days. Suprapubic lithotomy was performed.

Anesthesia.—This was induced slowly, for any effort to hasten obstructed the breathing. After about five minutes' satisfactory anesthesia had been induced and the incision was made and the bladder exposed. Respiration was somewhat labored but patient was in good condition and had a good color, indicating good oxygenation. The pulse was not easily obtained by palpation but was quite distinct by auscultation.

It was the intention to remove the contents of the bladder gradually, but the distention was so great that when the incision was made the bladder burst and the contents flew to the ceiling. Respiration ceased at once; no pulse or heart sound could be detected, eyes fixed and staring, pupils enormously dilated and all reflex abolished. Artificial respiration and lung inflation with pure oxygen were resorted to at once. Heart sounds commenced within thirty seconds with almost immediate inspiration, which was repeated after a few seconds and normal respiration and circulation reestablished. Pure oxygen was continued, alternating with air until the corneal reflex was established, after which the nitrous oxid with oxygen was used and the anesthesia continued without mishap to the completion of the operation. The patient recovered consciousness within eight minutes and did not seem greatly depressed.

The following case is reported for the reason that it is the only death that I have ever had. Nitrous oxid with oxygen was the anesthetic used. I will give a detailed report of this case in order to show that the anesthetic was not the primary cause.

CASE 7.—*Patient.*—Mrs. M., aged 60, had been vomiting for over a month and was in an exhausted condition from starvation. The cause of her trouble was very obscure and symptoms were lacking. Gallstones were finally diagnosed. Owing to her extremely exhausted condition an operation was considered hazardous but imperative. The persons interested were aware of the likelihood of a fatal termination so were prepared in a way for what followed. I found a very weak, thready, irregular pulse running at the rate of 150, and hardly perceptible in the radial artery.

Anesthesia.—The anesthetic was started with 95 parts nitrous oxid and 5 parts oxygen. The oxygen was increased rapidly up to 10 parts. The patient was found to be fully anesthetized after she had taken about eight inhalations. It was necessary to increase the oxygen to 20 parts or more to prevent too deep anesthesia. There was a peculiar livid appearance in the face but there was no cyanosis or any indication of anoxemia. The respirations being unhampered and regular, the pulse was about as rapid as at the beginning, but was of better tension and more regular.

Operation.—This was begun within two minutes. There was no noticeable alteration in either respiration or circulation when the incision was made. The corneal reflex was abolished from the time anesthesia was noticed to be present. It was necessary to increase the oxygen and diminish the nitrous oxid greatly to prevent an overdose of the anesthetic. By the continued application of the phonendoscope the heart was found to be acting fairly well. Everything was going along nicely until work was begun in the cystic duct and gall bladder; then respiration became uneven and forced and the heart sounds were barely discernible. The operation had been in progress for fifty-five minutes. There was no cyanosis present in the face and oxygenation seemed to be perfect, but it was noticed that the fingers of the patient were blue. This blueness gradually crept up the hands and arms, and as a large increase of oxygen and the discontinuance of the nitrous oxid did not remedy the condition we at once used pure oxygen, atropin, strychnin, but with no results, as the pulse and respiration ceased.

Artificial respiration and lung inflation with pure oxygen and other resuscitating measures were carried out for forty minutes without a sign of reanimation. This death was due to shock and primary cardiac failure. The anesthetic was blameable only in so far as it added its influence in bringing about a lower resistance of the organism.

CONTINUOUS AUSCULTATION

I wish to speak of the importance of continuous auscultation of the cardiac and respiratory rhythm during the entire course of general anesthesia. As far as I am aware I was the first person to bring into use this method of continuous auscultation during general anesthesia. My records will show that I have been using this method since May 2, 1906.

On the above date I used it for the first time, and have been using ever since a small stethoscope known as Dr. Kehler's. It was used in connection with a case for an extensive laparotomy performed by Dr. Hunter Robb at Lakeside Hospital, I used this because I felt the need of a more accurate method of ascertaining the condition of circulation during anesthesia. In the administration of nitrous oxid and oxygen, both hands of the administrator are kept busy most of the time, especially if things are not going well with the patient. From necessity I looked for some means of ascertaining the state of the heart and respiratory sounds, and purchased an improved Kehler's stethoscope. This little instrument is especially adapted for this purpose, as it consists of a flat disk to which a rubber tube is attached, extending to the ear of the anesthetist. The stethoscope, placed on the chest of the patient, will usually stay there without being held. If necessary, adhesive plaster can be used to hold it if there is any tendency for it to be displaced.

An anesthetist will find this method to be of great value to him in the administration of all anesthetics. Uninterrupted information will be given to any and all change in the heart beat and respiration. When anesthetizing a bad subject in whom the operative risk is great, there is nothing that gives me so great a feeling of confidence as that of continuous auscultation. Every variation of heart sound is at once discernible, and what might be serious complications can be averted by the premonitory symptoms thus made manifest.

METHOD OF OVERCOMING RIGIDITY

One of the main objections to nitrous oxid with oxygen as the anesthetic in major surgery is the rigidity sometimes encountered. In my practice about 10 per cent. of the patients can not be fully relaxed in cases in which complete relaxation is required. Not caring to resort to other general anesthetics for this 10 per cent. of cases, I have used numerous drugs before and during anesthesia. My best results were obtained when ¼ to ⅛ gr. morphin sulphate and 1/100 to 1/150 gr. atropin were given hypodermically one-half hour before the operation. At least 8 per cent. of the 10 per cent. can be satisfactorily handled under this treatment. By this method we get a more tranquil anesthesia, accompanied by almost complete relaxation even for rectal and like surgery. A much larger percentage of oxygen can be given and a smaller amount of nitrous oxid is necessary, so that a beautiful anesthetic state is produced. In these exceptional cases in which any anesthetic would be taken badly, I find it far safer to precede the nitrous oxid and oxygen with the morphin and atropin, because the patient would have to be almost asphyxiated in order to produce the desired depth of anesthesia without it.

I do not advise the use of morphin as a preliminary to nitrous oxid and oxygen in the hands of a novice or one of little experience with this anesthetic agent, however. The reason is that respiration is more apt to cease, which is the tendency under nitrous oxid. This being so, it is much harder to re-establish respiration than if morphin had not been used. In the hands of an expert, this combination is about ideal for prolonged anesthesia in extensive major surgery. One who is taking up the administration of nitrous oxid and oxygen should undertake only simple cases until he has fully mastered the more or less complicated apparatus and has gained experience with this evanescent agent. If the desired

depth of anesthesia can not be obtained in his hands with the nitrous oxid and oxygen alone, he should resort to ether in combination with the nitrous oxid and oxygen. It would be much safer probably than the morphin.

APPARATUS REQUIREMENTS

In order to administer nitrous oxid and oxygen properly it is essential that a perfect working apparatus be used. The apparatus should embody the following requirements: There should be 4 cylinders attached, 2 containing nitrous oxid and 2 oxygen. When one cylinder is exhausted, there is no time lost in turning to the other one. The empty one can be taken off later and a full one replaced, so that the anesthetist need not worry lest his supply should fail him at an inopportune time.

There should be means of warming the gas, not theoretically but practically, so that the gas is warm when it is inhaled. All channels from the bag to the inhaler should be large and unobstructed, so that no strain will be thrown on the respiratory mechanism. In fact, the gases should be under a slight pressure in the inhaler if the best results are to be obtained. This is accomplished by a delicate spiral spring on the expiratory valve. The two gases should not be mixed in the bags, but just before entering the inhaler. A transparent face-piece is advisable, so that the features of the patient may be always visible. If there is retching it can be seen if vomit comes from the mouth without raising the inhaler. If a mouth-prop is being used it can be seen whether it is in place or not. Such an inhaler is more easily kept aseptic. There should be means for nasal inhalation for all work in the mouth or throat, so that nitrous oxid and oxygen can be continued for any length of time.

There is no reason why anesthesia should be short for operations in the mouth or throat if the operation requires time. There should be an attachment, so that varying percentages of ether can be administered in combination with the nitrous oxid and oxygen or in sequence. The apparatus should embody all the above requirements and should be of a portable nature, so that it can be easily carried from place to place.

TECHNIC FOR OPERATIONS ELSEWHERE THAN IN MOUTH AND THROAT

The technic for the proper administration of nitrous oxid and oxygen for an operation other than in the mouth or throat is as follows: A plentiful supply of the two gases is imperative. The two bags are filled with their respective gases. The valve from the nitrous oxid bag is opened just as the inhaler is adjusted on the face. The nitrous oxid is allowed to flow from the cylinder through the warmer to the bag and should be adjusted so the bag will be under a little tension all the time. After the patient has been breathing the pure nitrous oxid for a few seconds (the time will vary from five to fifteen seconds), about 2 or 3 per cent. of oxygen should be admitted and this increased more or less rapidly as symptoms indicating its need arise. As a rule, the patient should pass into profound anesthesia within two or three minutes, but complete relaxation does not take place until a little longer time has elapsed. When surgical anesthesia has been obtained it can be maintained as long as desired by the proper proportions of the nitrous oxid and oxygen. The symptoms of nitrous oxid and oxygen anesthesia are the same as those obtained with the other general anesthetic agents. I have no special guide to anesthesia under this anesthetic, but I watch the respiration, color of the face, heart sounds, and reflexes of eye.

It is important to keep a constant, even flow of nitrous oxid into the bag and to deepen or lighten the anesthesia by decreasing or increasing the amount of oxygen. I am able to obtain a more even anesthetic and more complete relaxation by this method than any other. The great trouble is to get the nitrous oxid to flow evenly.

If conditions are such that the desired depth of anesthesia and relaxation can not be obtained with the nitrous oxid and oxygen, a small percentage of ether, varying in amount, should be given without interfering with the amount of nitrous oxid and oxygen. By this means all patients can be successfully anesthetized. Just how often it will be necessary to resort to the addition of ether will depend largely on the skill of the anesthetist. In my hands about 10 per cent. of the patients will require the additional help, if morphin has not been given previously.

TECHNIC OF OPERATION ON MOUTH AND THROAT

If the operation is in the mouth or throat the nasal administration is indicated, and this is accomplished by means of a small nasal inhaler. This inhaler covers only the nose and does not hinder the operator in the least. The technic for the administration is the same as with the face inhaler, with this difference. If a rubber pad is held over the mouth of the patient he is compelled to breathe through the nose until complete anesthesia has been induced. When work is commenced in the mouth or throat the exhaling valve in the inhaler is closed and the nitrous oxid with oxygen is forced through the nose into the mouth under sufficient pressure to keep the patient fully anesthetized as long as desired.

I have had over 1,500 tonsillectomies, tonsillotomies and adenectomies in which anesthesia was required for a few seconds to thirty minutes, and have not had a patient who could not be kept under to the completion of the operation. The advantages of this anesthetic in surgery of the mouth, throat and nose are that it is not unpleasant to the patient; anesthesia soon induced; any position of the patient can be utilized; the cough reflex is maintained, preventing inhalation of blood and tissue, quick recovery from the anesthetic state without nausea and vomiting, unless blood and tissue have been swallowed, and, above all, the safest anesthesia known. The same preparatory requirements should be carried out for nitrous oxid and oxygen as for other general anesthetic agents, except for minor operations, when only light and short anesthesia is required. Under such conditions nitrous oxid and oxygen can be administered satisfactorily in most cases.

DANGERS

The dangers encountered in the administration of nitrous oxid and oxygen are not many, but the condition and state produced are not natural, so necessarily there are dangers of more or less extent. The principal danger of nitrous oxid and oxygen anesthesia is that of asphyxiation. The asphyxial element entering into the anesthesia is due to the necessity of administering nitrous oxid almost in its pure state, in order to bring about that degree of saturation necessary to produce anesthesia. The asphyxial element is influenced also by the following factors: the susceptibility of the patient to the influence of the anesthetic, temperament of patient, freedom of the respiratory tract from obstruction, reflex effects of the operative manipulations and the skill with

which the nitrous oxid with oxygen is being administered. A certain amount of cyanosis is not objectionable with nitrous oxid and oxygen anesthesia, as it does not necessarily indicate an overdosage of the anesthetic, for it is not caused by cardiac or respiratory depression, but is simply a capillary stasis due to insufficient oxidation, and clears up readily when oxygen is admitted. Asphyxia, however, should not be allowed to enter into the procedure too much for any great length of time, for there is a damming back of the venous blood, throwing more or less strain on the right heart, and congestion and dilation of the brain are produced. All this can not fail to produce some deleterious effects if persisted in for a great length of time. The most noticeable effect from extreme cyanosis is a severe headache, which will not subside in some cases for two or three hours. It is hard to see how nitrous oxid could produce death except from asphyxiation, but I believe that this anesthetic can produce death without the asphyxial element entering into it at all. I have had cases in which I had an overdosage of the anesthetic (without asphyxial symptoms) to that extent that circulation was not discernible and respiration was all but imperceptible. This condition was quickly changed by a large increase of oxygen. I hope to bring out more along this line in the near future, as we are watching our hospital cases closely and hope to establish something authentic.

There is another condition which I have noticed about fifty times during my experience with this anesthetic, and that is the tetanic cramps in the hands, arms, feet and legs. The hands are so cramped that the thumb is drawn to the center of the palm and resists force to remove it. This condition has occurred in short cases mostly, but in one case it came on after the patient had been under the anesthetic about half an hour and continued through the anesthetic about half an hour longer. On recovery the patient experienced some pain in the hands, arms, feet and legs. A brisk rubbing was maintained for twenty minutes, when the condition subsided. Pure oxygen and strychnin were administered also. In every case in which this condition was manifested the patient's physical condition was either in bad shape or they were of a neurasthenic temperament or both. I speak of these things to show that there is a great deal yet to be learned about nitrous oxid and oxygen as an anesthetic.

Blood pressure is slightly raised during nitrous oxid and oxygen anesthesia, but this is influenced greatly by the asphyxiation that accompanies it. This point and other effects on the blood have been brought out by Drs. Hamburger and Ewing of Chicago in their experiments. These experiments were not conducted over a long series of cases, but enough was brought out, I think, to prove the correctness of the statement that "nitrous oxid anesthesia does not reduce hemoglobin and thereby cause anemia; that it does not cause increased hemolysis; that what apparent change it does produce on hemoglobin and red cells is transient and of no clinical significance . . . that nitrous oxid causes no permanent effect of any significance, from the standpoint of blood changes."

The increase of venous blood pressure during nitrous oxid and oxygen anesthesia was manifested very forcibly in a case we had lately. The patient had been burned badly some time before, and her right side from the hip to the shoulder, including the arm, was denuded of epidermis and was covered with unorganized granulated tissue through which frail vessels ramified. The patient was anesthetized in about two minutes with nitrous oxid and oxygen, passing into profound anesthesia without any cyanosis. In about five minutes it was noticed that the veins in this frail tissue were filling up and bulging out in places as large as a man's finger. Then they would rupture. The bleeding was not troublesome, as the vessels were not much more than capillaries. During this phenomenon oxygen was increased to such an extent that a good florid color was produced; then the swelling of the vessels would subside somewhat, but not entirely. This was a practical demonstration as to the increased blood pressure in the veins under nitrous oxid and oxygen anesthesia.

ADVANTAGES

Of all that has been said in favor of nitrous oxid with oxygen as an anesthetic, there is nothing more important or more in its favor than the freedom from nausea and vomiting. This freedom from nausea and vomiting will depend to a great extent on the evenness of narcosis produced, preparation of the patient for the anesthetic, and purity of the gases. With a patient properly prepared and anesthesia evenly maintained with pure nitrous oxid and oxygen, nausea and vomiting will be a rare occurrence, indeed. In all my work I have had only five cases in which persistent vomiting was encountered, and in none of these did it last over six hours.

As a rule patients who have been operated on under nitrous oxid and oxygen anesthesia get along better than when other general anesthetics are used. They are less sick, can take nourishment quicker, have fewer complications, and in every way have a better chance for a speedy and complete recovery.

My object in presenting this subject before a section of the American Medical Association is to encourage the professional anesthetist to take up nitrous oxid and oxygen as a general anesthetic and develop it to a science. It is essential that great advancement must be made along the line of anesthesia to keep pace and to the forefront with other branches of medicine and surgery, and this can be accomplished only by the efforts of the medical man as a professional anesthetist.

ABSTRACT OF DISCUSSION

DR. E. S. TALBOT, Chicago: Has Dr. Teter paid any attention to the urine in these cases? Did he notice the urinary acidity and indicanuria?

DR. TETER: The patients have been watched by the surgeon afterward, and they have not reported any case in which there was irritation of the kidneys.

DR. TALBOT: My practice is such that I use anesthetics very little along that line, and I have only noticed in three or four cases excessive urinary acidity and considerable indicanuria. Now, whether the administration of the nitrous oxid has anything to do with that I do not know. It would seem to me a desirable thing to take up along the line of Dr. Teter's work, for he has opportunity to observe such a large number of cases.

DR. S. MCCURDY, Pittsburg, Pa.: The subject of anesthetics has been discussed and various anesthetics introduced as a substitute for ether from time to time, but the general surgeons throughout the entire world and in America especially depend on ether. In certain sections of this country and in Europe they use chloroform. From time to time we have introduced anesthetics which are more prompt in their action; but to get the best results from any anesthetic it is necessary to have a man skilled in the administration. Does Dr. Teter know to what extent this combined anesthetic has been introduced in the various parts of the country, and to what extent has it it been substituted for chloroform and ether. I tried somnoform for a while, but had a scare or two and went back to ether or chloroform. I use ether in almost all my operations.

DR. JOHN E. NYMAN, Chicago: It so happens that I can speak of a case of nitrous-oxid and oxygen anesthesia for pro-

longed surgical operation. The patient, a woman, had mitral insufficiency and marked albuminuria. Both the diagnosing physician and the operating surgeon said that the administration of the ordinary anesthetic would probably result in uremic poisoning within ten days, provided the patient did not die from cardiac insufficiency during the operation. Nitrous oxid and oxygen anesthesia was finally suggested. The operation was for ventral hernia, in which there were many adhesions and many evidences of adhesions of the intestines. The anesthetic was begun about 9 a. m., and in twenty seconds the patient was completely anesthetized. At 9:45 the patient was in bed and had so far come out of the anesthetic that she was able to talk. About an hour after emerging from the anesthetic she had a period of severe hysterical reaction, which, however, passed away very quickly. There were no sequelæ of any importance following the operation. At 1 o'clock she said she was very hungry, and liquid nourishment was given her. At 6 o'clock that night solid food was given her. I might say that it was found that the adhesions were producing symptoms of obstruction simply from pressure. No resection of the intestine was performed. There is no question but what, in operations on the intestines, continued muscular retching after the operation must have a deleterious effect on the result of the operation. In this case it was absent. A little irregularity of the heart developed during the anesthesia, but that passed away on increasing the oxygen. There was absolutely no effect, either immediately after the operation or subsequently on the character of the urine, and seemingly the kidneys had not been affected as a result of the anesthetic. I have since been instrumental in having the anesthetic used in three other similar cases. It seems to me that it is an ideal anesthetic.

DR. W. W. BABCOCK, Philadelphia: I think the subject of anesthesia has not been developed along any of its lines so fully as it should be. I have tried this method of nitrous oxid with oxygen to a limited degree and in some cases have been very much pleased with it. The only serious result was in the case of a child with an affection of the pharynx; the child suddenly became pale, respiration ceased, and it required artificial respiration for a considerable time to resuscitate the patient.

The problem in regard to anesthesia is not alone the anesthesia produced, but the ease with which the surgeon can do his work. In certain parts of the body there must be good relaxation or the surgeon will be hampered. Especially is this true of the abdominal cases; the patient may be entirely unconscious, but the muscles may remain so rigid that the operation will take twice as long, and may require much more violent manipulation of the tissues. Although the mortality from the anesthesia may be low, the operator's mortality may be increased from the extra time and manipulation required. Thus it is that at times nitrous oxid may indirectly increase the operative mortality. I think that it is usually difficult in abdominal operations to secure as complete relaxation with nitrous oxide and oxygen as can be obtained with ether. I confess I am not able to depend upon skilled anesthetists; I have to depend on the resident physicians as a rule. As very few residents develop sufficient skill to maintain nitrous oxid-oxygen anesthesia an hour or more, I have restricted this anesthesia for operations on the head, arms, legs, etc., parts which might be immobilized should the patient move. I have feared to undertake abdominal operations, owing to the fact that the patient might be over anesthetized and in spasm, or that he might be permitted to come out. There are other anesthetics which have not been developed, such as hyoscin, morphin, etc. Combinations of these drugs I think form an ideal anesthetic for selected cases from the point of comfort of the patient, although they are not always the most desirable for the operator. After a single hypodermic injection the patient may imperceptibly lose consciousness, and then after a period of time which may last three hours, five, ten or twelve hours, the patient gradually regains consciousness, entirely oblivious of the fact that anesthesia has been produced or that anything has been done. If one will select patients requiring serious operation, from the debilitated, who are over 35 years of age, and will carefully use this method of narcosis, excellent results may be obtained.

The subject of local anesthesia has not been fully developed. The control of tic douloureux by injecting alcohol into the nerves as they emerge from the base of the skull, demonstrates a method by which we may anesthetize the entire distribution of a nerve trunk, for example, of the inferior maxillary distribution of the fifth nerve. The foramen ovale may be reached by running a syringe directly above or below the middle of the zygoma, the needle being directed upward, backward and inward until one reaches the pterygoid plate. Then the needle is deviated so it goes by the edge of the pterygoid plate into the nerve. In this way the entire distribution of the third division of the trifacial can be anesthetized. Introducing the needle backward, inward and upward from the posterior edge of the malar bone, one can pass to the foramen rotundum and block another division, anesthetizing the upper jaw. Anything that develops these methods of anesthesia will be of inestimable value. Most of us are only trained in one anesthetic. It would be a splendid thing if we could be broadly trained, not only in ether anesthesia, but in local and spinal anesthesia, in nitrous oxid and the narcotics. We seem to have lost or neglected some of the ancient anesthetic skill of the Greeks, Romans and Chinese.

DR. CHARLES K. TETER, Cleveland, O.: I have never had a patient yet whom I could not get under the effect of nitrous oxid and oxygen. I have had cases in which it was impossible to get perfect relaxation, but never had a patient whom I could not get thoroughly unconscious if I had an assistant to hold him during the excitable stage. If you can not apply the anesthetic and exclude atmospheric air you may have patients who will become excited and unmanageable. With sufficient assistance there is no reason why one can not anesthetize every patient.

I do not advocate one anesthetic for every condition. Certain people are more or less susceptible to certain drugs. If I find a patient taking one anesthetic badly I change to another I do not think an anesthetist is fully capable unless he can give any anesthetic and recognize when a change would be beneficial.

For the last three years nitrous oxid and oxygen has been taken up wonderfully by the medical profession. In Chicago last year I was surprised to find how much nitrous oxid was used in general surgery. At Cook County Hospital they have been trying to get results with nitrous oxid. Practically all the leading hospitals of Chicago, I found, were using this anesthetic more or less. In Cleveland we have been using it for six years or more. I was the first to popularize nitrous oxid and oxygen for general surgery in Cleveland. There are now four others specializing with it. So many men think all they have to do is to get the apparatus and that then they can use nitrous oxid. No one should attempt to give any anesthetic without the proper instruction.

It is invariably my method to have a hypodermic of morphin and atropin given before any anesthesia. In this way I can use less of the anesthetic and more of the oxygen. Once in a while I have a patient whom I can not even get relaxed in this way. Then I pass a stream of oxygen and nitrous oxid over the ether, taking up a smaller or greater portion of ether as may be necessary to get relaxation. After that I discontinue the ether and do the operation with straight nitrous oxid and oxygen; but I keep away from the ether as much as I can on account of the after effects.

The oldest patient I had was 92. The operation lasted about one hour and fifteen minutes. She took the anesthetic as nicely any any patient I ever had. I do not think age has any bearing; only I would be more watchful in a patient of advanced years on account of the condition of the blood vessels and the extra stress laid on them if there is much cyanosis accompanying the narcosis.

Another point I wish to bring up, and that is the question of taking up anesthetics as a specialty and sticking to it. The trouble is that the medical man has thought it beneath him to confine himself to anesthetics. Anesthetics are at the same place, one might say, that they were thirty years ago. This is not as it should be. The surgeons are all looking for the skilled anesthetist, and I find that the patients, when they understand it, as a rule, are willing to pay a skilled anesthetist his fee. I hope medical men will take up anesthetics and develop it as a science, so that the mortality from this cause may be greatly reduced.

THE INCIDENCE AND CAUSES OF TUBERCULOUS HEMOPTYSIS

A STATISTICAL STUDY*

JAMES M. ANDERS, M.D., LL.D.
Professor of Medicine and Clinical Medicine in the Medico-Chirurgical College
PHILADELPHIA

Hemoptysis is regarded as an important and much-dreaded symptom of pulmonary tuberculosis. Any new light shed on its etiology, therefore, must be welcomed. At the outset I desire to present a few facts bearing on the direct or pathologic etiology of hemoptysis, and, considered from this point of view, the cases fall naturally under two heads: (a) those caused by congestion of the bronchial mucosa and lung texture, and (b) those due to ulceration or erosion of blood vessels or rupture of miliary aneurisms.

A BLOOD-SPITTING CAUSED BY PULMONARY CONGESTION

It may be pertinently questioned, as pointed out by Garland, whether the degree of hyperemia in other acute or chronic affections of the lungs does not exceed that of the early stage of pulmonary tuberculosis, in which, however, there is a more marked tendency toward hemorrhages. It is undoubted that the walls of the blood vessels early manifest defective nutrition in this disease, as the result of endarteritis. On the other hand, the local, direct action of the tubercle bacilli is most probably a factor in bringing about pulmonary bleedings.

Cornet states that bleedings are apt to occur in the incipient stage: "While there are as yet few proteins and the living bacillus plays the chief rôle, the healthy wall of the smaller bronchial vessels is apt to become invaded and eroded, giving rise to a hemorrhage." The earlier hemorrhages in the course of pulmonary tuberculosis, however, are only rarely dependent on congestion or erosion of the bronchial mucous membrane, the usual source being the pulmonary vessels. The second pathologic stage, or that of commencing destruction of the capillary blood vessels, is probably the one at which hemoptysis is most rife.

B. HEMOPTYSIS DUE TO ULCERATION OR EROSION OF VESSELS OR RUPTURE OF MILIARY ANEURISMS

As regards hemorrhages in advanced pulmonary tuberculosis, my studies of the institutional records lend decided support to the view that fatal bleedings usually proceed either from a ruptured aneurism in a lung vessel or erosion of a pulmonary vessel, as first shown by Rasmussen.[1]

R. E. Thompson,[2] Brown,[3] and others have emphasized the fact that profuse or fatal hemorrhages never proceed solely from rupture of the pulmonary vein or bronchial artery. As pointed out in my previous article, this form of hemorrhage tends to develop in cases in which the processes of softening and liquefaction progress acutely and do not present endarteritis, owing to the short duration of the tuberculous process. In the majority of cases, however, pathologic changes in the walls of the pulmonary vessels with aneurismal dilatations precede the serious accident.

* Read before the American Climatological Association, at Fortress Monroe, Virginia, June 4, 1909.

1. Anders, J. M.: Am. Jour. Med. Sc., January, 1902.
2. Thompson, R. E.: Causes and Results of Pulmonary Hemorrhage, Smith, Elder & Co., 1879.
3. Brown: Am. Jour. Med. Sc., August, 1906.

INCIDENCE

The present study embraces a totality of 5,891 cases of tuberculosis, of which 5,302 have been collected, since the publication of the results of my preliminary investigation into the subject,[4] from the records of a number of public institutions of Philadelphia. The names of these, and the number of case records derived from each respectively, are as follows: The Henry Phipps Institute, 3,010; Philadelphia Hospital, 1,539; Rush Hospital, 315; Jewish Hospital, 261; Philadelphia Clinic for Throat and Lung Affections, 93; Medico-Chirurgical Hospital, 43, and Protestant Episcopal Hospital, 41.

There is a consensus of professional opinion that hemoptysis is a frequent symptom of tuberculosis. In my former statistical inquiry it was shown to be present in 169 out of 589 cases, or 28.7 per cent. The larger statistics herein reported indicate a higher incidence—e. g., in a totality of 5,302 cases, hemoptysis was found in 1,950, or 36.6 per cent. In this connection it should be emphasized that not all cases were followed until the death or recovery of the patients, but many were discharged during the course of the affection. As stated in my former preliminary study, "the cases from private practice (kept under observation for a longer period, as a rule), numbering 289, the percentage in which hemoptysis is present, rises immediately from 28.7 to 41.8 per cent., but it is to be recollected that even these patients were under observation during less than half of their duration."

Again, if we consider only the data gleaned from the complete records of the Phipps Institute, the following result is obtained: Of a totality of 2,867 cases, 1,251, or 43 per cent., manifested this symptom. While the incidence of hemoptysis in the course of pulmonary tuberculosis can not be accurately stated for want of reliable statistics at present, I feel strongly that the above percentages would be further increased rather than decreased by an exact knowledge of the subject.

AGE AND SEX

Table 1 indicates the incidence of pulmonary tuberculosis by decades for both sexes. It will be observed that more cases occurred in males than females, there being 3,420 among the former and 2,453 among the latter. Prior to the twentieth year of age, however, the figures indicate a slight relative preponderance in favor of the female sex.

TABLE 1.—AGES BY DECADES AT WHICH TUBERCULOSIS OCCURRED

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Males	55	452	1,126	990	500	199	88	10
Females	38	367	662	825	327	191	50	8

TABLE 2.—AGES BY DECADES AT WHICH HEMOPTYSIS OCCURRED

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Males	11	203	364	382	192	108	23	4
Females	7	161	261	244	121	49	15	2

These larger statistics corroborate the findings of my preliminary study, namely, that hemoptysis is manifested earlier in life in the female sex than in the male (Table 2), the ratio being 5:4 in favor of the former sex. This view is also, in a measure, supported by the collective investigations of Thompson, who found that in 1,084 cases of tuberculosis, women showed greater liability to hemoptysis than men "in the relation of 65:62 per cent." In my own studies, however, this increased incidence in the female sex is, as shown above, confined principally to the first two decades of life.

4. Anders, J. M.: Hemoptysis due to Tuberculosis, THE JOURNAL A. M. A., 1907, xlix, 1067.

On the other hand, after the thirtieth year the numerical results show a preponderance of cases in the male sex.

My previous statistical inquiries indicated that profuse and fatal hemorrhages are less common in females than in males. The result is abundantly corroborated by the present more extensive collective investigations. For example, no instances of fatal bleeding were noted among the records of the cases occurring in females, whereas not less than 10 cases of hemoptysis proved immediately fatal among the tuberculous males.

The sexual difference in respect to the prognostic significance of this symptom is a point of considerable interest and importance. To attempt to advance an explanation of the fact, however, would lead directly into the realm of hypothesis at present.

SEASONAL INFLUENCE

My collective investigations into the seasonal relations of hemoptysis may be summarized in Table 3, which shows the number of cases of blood-spitting for the different months of the year, respectively, as well as the number of admissions for the same periods.

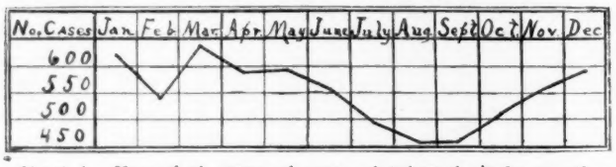


Chart 1.—Numerical range of cases of tuberculosis by months.

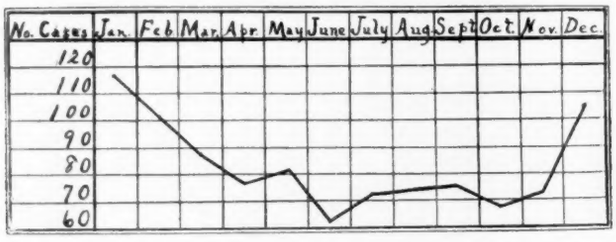


Chart 2.—Range of influence of seasons on the incidence of hemoptysis.

TABLE 3.—SEASONAL RELATIONS OF HEMOPTYSIS

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Admis.	627	545	638	590	595	551	495	455	454	510	551	582
Hemop.	116	102	86	76	81	65	73	74	76	68	85	107

A glance at Table 3 will show that hemoptysis in the course of tuberculosis is most prevalent during the months of December, January and February, while August, September, November, May and March, in the order named, seem to rank next. The figures in Table 3 are decidedly at variance with the numerical results of my former studies, from which the following summary of 157 cases for each month of the year is taken:

TABLE 4.—SEASONAL RELATIONS OF HEMOPTYSIS

Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
11	9	14	19	13	16	14	16	16	8	11	10

As will be observed, I have taken the precaution in my second more extended, statistical inquiries, which cover 5,302 cases (Table 3), to estimate the monthly prevalence on the basis of a comparison of the cases of blood-spitting with the total number of admissions to the various institutions whose records have been consulted, for each month of the year; and have also attempted below to express the same graphically. Chart I indicates the numerical range of cases by months based on the grand totality of 5,302 cases. Chart 2 will show the influence of the seasons on the incidence of hemoptysis; and the chances of error in this computation are believed to be inconsiderable.

These results are directly opposed to the preconceived notions of most writers, who contend that the spring and summer months give the highest incidence. In fact, the results of my previous investigations into the subject, which were far less extensive, however, were also in consonance with this widely accepted opinion. It has been held that the enervating effects of heat as well as the influence of marked oscillations of temperature and humidity during the spring months, as well as the "spring winds," are causative factors; also that sudden, extreme changes of weather bring about intercurrent acute bronchitis and an aggravation of the cough, which tends to excite bleeding. On the other hand, it is generally believed, contrary to what is shown herein, that a steady stimulating cold, such as prevails usually during the months of December, January and February, has a preventive influence.

The present studies having given a result precisely contrary to those of previous statistical inquiries by myself and various other observers, which were on a smaller scale, I further examined carefully the figures obtained from Phipps Institute alone, giving consideration to the associated conditions of special cases. The following Tables 5 and 6 will show the number of cases of tuberculosis admitted to that institution for each month, from Feb. 1, 1904, to Feb. 1, 1907, and the number of cases of hemoptysis for similar periods of the year:

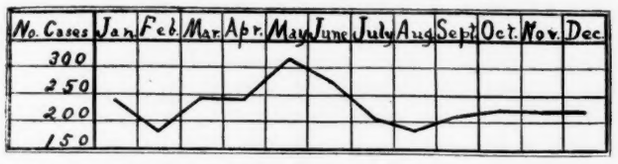


Chart 3.—Numerical range of cases of tuberculosis admitted monthly to Phipps Institute.

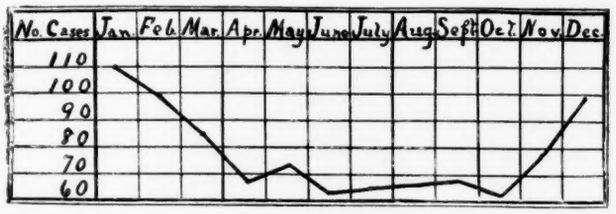


Chart 4.—Numerical range of cases of hemoptysis in tuberculosis by monthly occurrence.

TABLE 5.—NUMBER OF CASES OF TUBERCULOSIS FOR THE VARIOUS MONTHS OF THE YEAR

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1904	..	99	105	86	111	116	80	54	61	85	88	94
1905	81	24	54	82	119	91	68	63	45	60	55	50
1906	56	47	87	75	85	68	56	68	104	80	83	82
1907	98	..	..	..	..	..	..	..	..	..	..	..
Total	235	170	246	243	315	275	204	185	210	225	226	226

TABLE 6.—NUMBER OF CASES OF HEMOPTYSIS FOR THE VARIOUS MONTHS OF THE YEAR

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1904	..	56	42	23	23	26	25	21	23	21	32	36
1905	39	12	11	22	30	20	21	22	15	18	19	29
1906	27	28	32	21	21	18	19	23	31	23	26	32
1907	44	..	..	..	..	..	..	..	..	..	..	..
Total	110	96	85	66	74	64	65	66	69	62	77	97

Charts 3 and 4 are here given, with a view to showing both the seasonal relations of tuberculosis and the incidence of hemoptysis relative to the total number of cases admitted to the Phipps Institute during the various months of the year. It will be observed that they bear striking resemblance to those (Charts 1 and 2) based on the total number of cases from all sources.

It is well known that multiple hemorrhages occur in the majority of the cases of pulmonary tuberculosis, in which hemoptysis is among the clinical features. A strong tendency to recurrence is shown by my collective inquiries. Thus, in a totality of 3,142 cases of tuberculosis, recurring outbursts took place in 1,928, or 51.5 per cent. In 314, out of a totality of 3,092 cases of pulmonary tuberculosis, a single hemorrhage occurred. Mere bloody or blood-streaked expectoration was recorded in 879, or 16.5 per cent., in the total number (3,092). In 1,192 cases, or 24.4 per cent., out of the totality of 3,092 cases, the case records mentioned the fact that no blood-spitting took place. With regard to the stage of the tuberculous process, at which bleedings are most prone to arise, my figures indicate that in 1,439 out of 2,084 (in which the period of disease was given), or 69 per cent. of the instances, hemoptysis appeared in the first and early part of the second stage, or that of softening (ulceration). These results are in accord with those of my previous investigations, and they likewise support the views expressed above concerning the pathogenesis of the condition.

In my opinion, the questions raised by the present studies must find practical solution in similar collective investigations at the hands of physicians of the present and the future. It is quite possible, at all events, to amass data in this manner to permit of a reliable statistical demonstration of the facts. Obviously, the great importance of hemoptysis as a diagnostic feature of tuberculosis renders further observations along the line pursued in this paper extremely desirable.

Clinical Notes

A NEW FOOD SCALE

AN AID IN THE ADMINISTRATION OF QUANTITATIVE DIETS

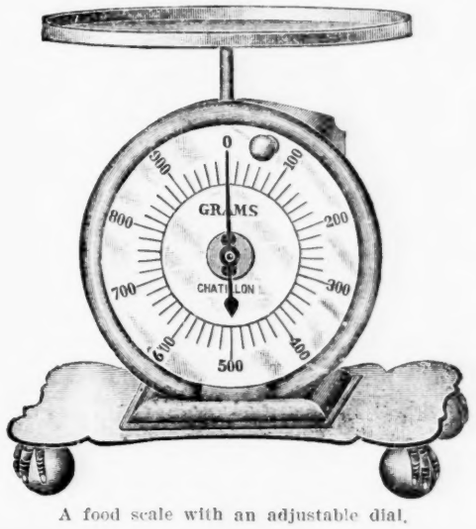
T. STUART HART, A.M., M.D.
Associate in Medicine, College of Physicians and Surgeons, Columbia University; Visiting Physician to Seton Hospital
NEW YORK CITY

The importance of the exact measurement of the quantity of drugs administered to our patients has been recognized for many years. It is comparatively recently, however, that the value of the exact measurement of food has become generally accepted. Practically all careful physicians now realize the value of the food prescription, which indicates not only the quality, but also the quantity of food. This is particularly the case in those diseases in which metabolic disorders are prominent.

The great difficulty in practice has not been the giving of directions to the patient but the difficulty of having those directions properly executed. For drugs the teaspoonful, the tumblerful, the pill, the powder, the tablet, and the capsule, with the cooperation of the apothecary are simple and convenient means of furnishing fairly exact dosage. Every one, however, who has tried to prescribe food in definite quantities by weight realizes how difficult it is to obtain from the patient an intelligent cooperation, and I know of a number of physicians who, after some effort in this direction, have simply thrown up the undertaking and announce frankly that it is useless to attempt to prescribe a quantitative diet.

The obstacles from the patient's standpoint are not inconsiderable. In the first place they have been accustomed to eat in accordance with their fancy an amount large or small, and it takes no small amount of persuasion and education by the physician to convince them of the importance of uprooting the habits of a lifetime to conform to the new conditions. Secondly, the weighing of foods is not a small annoyance. A majority of our patients for whom it is desirable to prescribe a weighed diet are not ill enough to be housed in a sanitarium for any considerable period, neither can they afford, nor will they submit to the prolonged supervision of their food by an attendant at their homes. Rarely in my experience does one meet with a nurse, however efficient in other respects, who has had the particular training necessary to carry out the physician's instructions in regard to the administration of definite quantities of solid foods.

There are few households in which the presiding genius of the kitchen is sufficiently intelligent or eager to add to her duties to accurately weigh the food for one member of the family. As a rule the patient must do this for himself, and do it at the table; the difficulties of this procedure have been enhanced by the cumbersome apparatus and more or less complicated



A food scale with an adjustable dial.

calculations which it has been necessary for him to employ. If we are to expect our patients to weigh their food we must make weighing as simple and easy for them as possible.

In order to obviate some of the difficulties I have devised a food scale, with the cooperation of Mr. George E. Chatillon, for the use of physicians and patients which I believe presents a number of features of distinct advantages. This is an accurate spring scale of modest dimensions, 6 inches high and with a 5-inch base, finished in nickel and, therefore, not too conspicuous to be used at the table. It is fitted with a broad circular plate which easily supports the dish on which the food is weighed and it has a base sufficiently wide to keep the scale from being easily upset. The scale is made to indicate grams, having a total capacity of 1,000 grams, the dial being figured for every 100 grams, with subdivisions indicating 20 grams each. By a special contrivance the dial can be quickly rotated to any desired point, by means of a small knob. The result is that the zero point can be easily brought to any position desired.

The method of using the scale is as follows: Suppose the food prescription for a given meal consists of

Meat	100 grams
Potatoes	80 grams
String beans	120 grams
Wheat bread	60 grams

An empty plate is placed on the scale and by means of the knob the dial is rotated until the zero point is opposite the end of the pointer; meat is placed on the plate until the pointer indicates 100 grams; the dial is again rotated until zero is opposite the pointer; potato is added until 80 grams are indicated, and so on, the zero point on the dial being each time brought opposite the pointer until at the completion of the operation we have on the plate all the food for the meal, each kind of food accurately weighed.

In order to get our patients to measure their diet the various articles of food must be weighed; no mere guess work will answer the purpose. The direction to take food in "portions," etc., is most unsatisfactory unless the patient has first learned by means of the scale just how large a "portion" the physician intends him to take. For example, a "portion" of roast beef as served in one of our best public restaurants is equal to two or three servings at the average family table, and by actually weighing "slices" of bread, which I have asked my patient to bring me, in order that I might determine their notion of a "slice," I have found values varying from 30 to 150 grams.

I make it a rule to have each patient whom I am treating for diabetes, obesity, etc., weigh all his food for a period of two weeks. It is surprising and gratifying to see how soon one gets to know just how large is a piece of meat, or fish, or bread which weighs 100 grams. After such practice for two or three weeks the patient can hit pretty close to the mark without actually weighing the food and after this needs to utilize the scale only as an occasional check to his newly acquired art or to determine the weights of new kinds of food.

I can not too strongly urge on every physician who uses the quantitative food prescription to familiarize himself with the weights of the various foods which he is prescribing. Theoretically one might, for example, wish to fill out the caloric value of the diet with 250 grams of cheese, but practically one will find considerable difficulty in making his patient take such an amount; the reason becomes very evident when one weighs out the quantity specified and sees for himself the actual bulk of this item. Familiarity with food weights will make it much easier to prescribe a diet well balanced not only as to its quality and caloric value but also with regard to the habits and customs of the average individual.

The new scale is offered as a simple and accurate means of weighing several foods of different kinds on one plate without mathematical calculations; its design makes it as little conspicuous as possible, and I believe it will be a material aid in inducing patients to undertake a carefully measured diet. It is manufactured by Messrs. John Chatillon & Sons, 85 Cliff Street, New York City.

Dental Prophylaxis.—No doubt much dyspepsia is due to decayed and defective teeth, which preclude complete mastication of the food (even if anybody in America had the time to eat properly). Dentists, like doctors, are now beginning to realize that their true mission is not "a general rebuilding system," but a systematic and well-considered effort to prevent and overcome the decay and loosening of human teeth.—*Scientific American.*

ACUTE ANAPHYLACTIC DEATH IN GUINEA-PIGS

ITS CAUSE AND POSSIBLE PREVENTION; A PRELIMINARY NOTE *

J. AUER, M.D., AND PAUL A. LEWIS, M.D.
NEW YORK CITY

The animals employed for this study were exclusively guinea-pigs which had been sensitized by a peritoneal injection of horse serum or by a subcutaneous injection of edestin (a proteid obtained from hemp seed). After a number of weeks the animals were tested. This was done by stretching them out on a suitable holder and injecting the horse serum (0.5 to 1 c.c.) or edestin (10 mg.) into a cannula inserted into the external jugular vein, recording at the same time the respiration or blood pressure or both. From the results which we have obtained we would like to call attention to the following:

1. *The animals die of asphyxia.* A few minutes after the intravenous injection of 0.5 to 1 c.c. of horse serum into a sensitized guinea-pig, it will be noticed that the respiration is remarkably modified: the chest no longer expands with each inspiration, but, instead, the front and sides of the thorax sink in. The respirations, which are much more powerful than normal and are accompanied by tonic and clonic convulsions, gradually become less and less and finally cease. The heart continues to beat regularly for minutes after all respiration has ceased. If an animal is allowed to breathe from a large air-bottle which is connected with a tambour, it will be seen that the tambour lever hardly moves while the animal is making these tremendous respiratory efforts; in other words, little or no air enters the lungs. If the blood pressure is recorded it will be seen that the blood in the cannula is black and the blood pressure first rises and then slowly falls.

2. *This asphyxia is due to peripheral causes,* for it occurs after section of both vagi and after the cord and medulla have been destroyed. If the cord and medulla are destroyed, artificial respiration, of course, must be given. Now, again, the blood turns black, and the chest no longer, as a rule, is expanded by the same strength of artificial respiration which before the injection of the killing dose of horse serum gave a good expansion of the chest. At autopsy the lungs present the typical picture of an acute anaphylactic death in guinea-pigs (described infra).

3. *This asphyxia is due to an inspiratory immobilization of the lungs.* If the chest of a guinea-pig killed by anaphylaxis be opened, it will be seen that the lungs hardly collapse, and apparently fill out largely the entire chest cavity. There is no marked collapse in typical cases when the entire lung is excised; they seem to be in a permanent state of inspiration. These lungs look pale pink and float lightly on water. Pieces of lung cut off do not collapse, but maintain their distention; the cut surface is moderately dry; pressure shows that this piece of lung is full of air. Usually the cut surface is fairly dry, but pressure at times shows small foci of fine white foam, as if there were some pulmonary edema. This immobility of the lungs in a more or less inspiratory condition is probably due to a tetanic contraction of the musculature of the fine bronchioli and alveolar ducts, imprisoning air in the alveolar sacs. A slight degree of pulmonary edema possibly also aids in the production of this pulmonary inspiratory immobility.

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*From the Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research.

4. *Atropin prevents or reduces these pulmonary symptoms.* If a guinea-pig sensitized with horse serum receives subcutaneously 0.5—1 mg. of atropin sulphate, some time previous to the killing dose of horse serum, it is usually found that the pulmonary symptoms described briefly above are absent or strongly reduced. We have had so far about twelve pigs which were prophylactically treated with atropin, and of these only two showed practically no effect. The others showed only slight or no pulmonary immobilization after the injection of a dose of horse serum which killed the control in a few minutes in the fashion described previously, or which produced this marked dyspnea with powerful diaphragmatic contractions and sinking in of the chest for a short time, after which respiration became gradually easier and the animal slowly recovered. The animals which recovered aided by atropin gained their normal state much more swiftly than the controls which escaped death. To illustrate we may state that an atropin pig began fighting with a neighbor less than one hour after the injection of horse serum, while its control was still weak and sick two hours after injection of a little less than the same dose of horse serum.

We fully realize that these few atropin experiments do not warrant a final statement, but it seems to us that their outcome was sufficiently clear to permit their publication with the other facts we have brought forward.

EXPENSIVE MOLDS FOR SOLIDIFIED CARBON DIOXID

W. A. PUSEY, M.D.
CHICAGO

The use of solidified carbon dioxid has apparently risen to the dignity where many devices for molding it are being suggested. In particular my attention has been called lately to a very elaborate mold which is being exploited commercially. Physicians are being solicited to purchase the outfit; at least in one instance within my knowledge it has been installed by its sellers in the office of a non-medical woman who does shampooing and facial massages; and instruction in the therapeutic use of the method is incidentally given by the agent, who is, I believe, not a physician and who, to judge from my interviews with him, is not entitled to give instructions on the subject. I am sufficiently interested in the good repute of the method and its common adoption to feel called on to protest against this commercial exploitation and to say that I see no reason whatever for a physician expending any such sum as $25 for a mold for carbon dioxid.

With this mold, which compresses the solidified carbon dioxid so firmly that it forms a mass like ice, there is an objection, aside from the expense, and that is that you get so hard a mass that its face can not be pared or otherwise quickly shaped. The mass also is so firm that it does not adapt itself to any variation from a flat surface. For applications of solidified carbon dioxid to minute points not larger than an eighth of an inch in diameter this hard stick is an advantage, but for all other applications the compression of the solidified carbon dioxid into so hard a mass is, in my opinion, a disadvantage.

All that is necessary for using solidified carbon dioxid is a cloth, preferably a chamois skin, in which to collect the snow from the tank. This snow can be compressed into a solid mass with the hands (protected by the cloth) and then pared with a knife into any desired shape. It is more convenient for making the solid masses to have a few tubular molds from ¼ to an inch in diameter. These can readily be made by taking sections a couple of inches long of hard rubber or metal tubing. If one desires to get very firm blocks of snow they can be made in these tubules by compressing with a hammer and a small rod. For example, you can fill such a tube and pack it as firmly as possible with the blunt end of a lead pencil. Then you can take a small hammer and an old metallic thermometer case, and with this you can pound it down to any density desired. Of course, less crude methods than this of molding the snow can be used, but I refer to this method to illustrate how simple is the necessary equipment for handling solidified carbon dioxid for therapeutic purposes.

72 Madison Street.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

THYRESOL.—Thyresol consists chiefly of the methyl ether of santalol, $C_{15}H_{23}OCH_3$. It is prepared by the action of sodium methylate on "santal oil chloride."

Thyresol is a colorless liquid of aromatic odor, almost insoluble in water; easily soluble in alcohol and ether; soluble in concentrated sulphuric acid with a reddish-brown color. Boils at 149-156° C. (300.2-312.8° F.) under pressure of about 16 mm. On heating with hydriodic acid, santalyl iodide and methyl iodide are formed.

Actions and Uses.—Similar to sandal wood oil, but said to be practically free from irritant effects on the stomach and kidneys.

It is said to be useful in acute and chronic gonorrhea, anterior and posterior, and other conditions in which the sandal wood oil preparations are indicated.

Dosage.—0.5 Gm. (8 grains) 3 to 4 times daily, best given in milk or in gelatin capsules.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Farbenfabriken of Elberfeld Co., New York. U. S. patent No. 909,541.

ZINC PEROXIDE—Zinci Peroxidum.—Zinc Peroxide is the zinc salt, ZnO_2, of hydrogen peroxide, containing an admixture of not more than 55 per cent. of zinc oxide.

Zinc peroxide occurs as a yellowish white voluminous powder; tasteless, odorless, non-hygroscopic, antiseptic, neither caustic nor irritant, and not more toxic than ordinary zinc oxide. It is insoluble in water, but gives to it a slight alkaline reaction; it is soluble in cold dilute sulphuric acid with evolution of oxygen and in dilute hydrochloric acid with liberation of chlorine. It gives all the reactions of peroxides, caramelizes sugar, disengages oxygen by the action of acids and in contact with living tissue. It is stable in the autoclave to 130° C. and at a dry heat to 150° C. and thus may be readily sterilized. Heated to higher temperature, it loses oxygen and forms zinc oxide. It should not respond to tests for calcium, magnesium, barium, sulphates, chlorides or carbonates.

0.2-0.3 Gm. zinc peroxide accurately weighed and added to 50 c.c. water and acidulated with 20 Cc. dilute sulphuric acid, should require for each 0.1 Gm. material used not less than 9.25 Cc. dilute tenth normal permanganate solution to produce a permanent pink color.

Action and Uses.—Zinc peroxide is used in the extemporaneous preparation of hydrogen peroxide for wounds, chronic ulcers, etc. It may be applied as a dressing directly on wounds, etc., where it produces hydrogen peroxide in situ.

For eczema and other skin diseases it is sometimes prescribed with half its weight of potassium iodide and one-tenth its weight of tartaric acid, the mixture liberating iodine on contact with moist surfaces.

Dosage.—It may be used as a dusting powder either alone or mixed with tannin, or in the form of gauze, or a 10 per cent. ointment.

PURIFIED EXTRACT OF ERGOT—Extractum Ergotæ Purificatum.—Ergotin Bonjean. Extractum secalis cornuti (Pharm. Helvetica, edit. 4); Extractum ergoti (Pharm. Française, 1908). An aqueous extract of ergot purified by alcohol.

Powdered ergot is extracted by percolation with water and the percolate concentrated, diluted with alcohol, allowed to stand, then filtered and the filtrate evaporated to a soft extract.

It is reddish brown, of characteristic odor and taste, soluble in water and in a mixture of equal parts of water and alcohol. The aqueous solution is yellowish brown and acid in reaction. (Pharm. Helvetica, edit. 4).

If 2 Cc. of an aqueous solution (1:20) is mixed with 7 Cc. of water and 1 Cc. Mayer's reagent there should appear at most but slight turbidity; the turbidity is increased by the addition of a trace of hydrochloric acid; the further addition of 5 drops of dilute acid produces within a few minutes a flocculent precipitate.

10 Cc. of a 1:20 solution of purified extract of ergot should become turbid upon the addition of 1 Cc. picric acid solution and precipitation should occur within five minutes.

If a solution of 0.2 Gm. purified extract of ergot in 5 Cc. water is made alkaline with 1 to 2 drops of ammonia water and then shaken out with ether, the ether extract evaporated and the residue dissolved in 2 Cc. acetic acid to which a trace of ferric chloride has been added and the mixture carefully poured upon concentrated sulphuric acid, a bluish violet color appears at the zone of contact (Pharm. Helvetica, edit. 4).

Action and Uses.—Purified extract of ergot has the action and uses of ergot.

Dosage.—0.2 to 0.5 Gm. (3 to 8 grains).

This preparation should not be confused with the following:

Ergotin Wernich (Pure Dried) is a purified and dialyzed dried aqueous extract of ergot.

Ergotin Wernich (Liquid) is a dialyzed extract of ergot, in the form of a reddish brown liquid.

Ergotin Wernich (Soft) is a purified and dialyzed soft extract of ergot; a reddish brown syrupy liquid.

Ergotin Wiggers (Pure Dried) is a dried, alcohol purified extract of ergot.

Ergotin Yvon is a fluidextract of ergot prepared by extracting with dilute solution of tartaric acid.

SODIUM PEROXIDE—Sodii Peroxidum.—Bioxydum natri (Pharm. Hispanola, edit. vii).

Sodium Peroxide is the sodium salt of hydrogen peroxide containing at least 75 per cent. Na_2O_2.

Sodium peroxide occurs in the form of a white, or yellowish, amorphous powder. It is soluble in water, with evolution of heat, and forms a solution of hydrogen peroxide, from which latter, oxygen is liberated by the heat of the reaction. It dissolves in cold dilute acids forming a solution of hydrogen peroxide. When heated sodium peroxide becomes darker, but on cooling resumes its original color. It does not react with alcohol, but it ignites ether on contact. A mixture with red phosphorus explodes under pressure or on being struck. It is an extremely powerful oxidizing agent.

Sodium peroxide should not respond to tests for sulphates, chlorides, phosphates, nitrogen and heavy metals.

Action and Uses.—Sodium peroxide is not used internally but has been used in acne, applied in the form of a paste prepared with liquid paraffin, or as a soap to remove comedones.

It has been suggested as an air purifier, based on the theory that the moisture of the air would liberate oxygen and the alkali simultaneously formed would absorb carbon dioxide.

Proprietary Preparation:

OXONE.—A name applied to fused sodium peroxide containing a fractional percentage of a catalytic agent. It is said to yield its entire content of available oxygen in gaseous form, upon contact with water.

Manufactured by The Roessler & Hasslacher Chemical Co., New York. U. S. Patent No. 788,256. U. S. patent application filed March 13, 1906. Serial No. 305,800. U. S. trademark No. 46673.

APINOL—Apinolum.—Apinol is a product obtained in the destructive distillation of the wood of Pinus palustris and Pinus australis; that portion boiling at 182.2° C. to 193.3° C. (360° to 380° F.) is collected and purified. It is claimed to consist mainly of leavomenthone, $C_{10}H_{18}O$.

Apinol is obtained from the products of destructive distillation of pine wood. After the removal of turpentine and other low boiling constituents by distillation, the portion boiling between 182.2°-193.3° C. (360°-380° F.) is collected and purified.

It is a clear amber-colored oil with an odor resembling that of the pine, having a specific gravity of 0.946 and an approximate boiling point of 182.2° C. (360° F.). It is neutral in reaction.

Actions and Uses.—Apinol is said to be an antiseptic, local anesthetic and expectorant.

It is said to be useful when applied externally to wounds, burns, ulcers, and denuded surfaces for the relief of pain and promotion of healing.

It is claimed to be of service in gastric and duodenal ulcer, chronic gastritis and enteritis, and in all forms of inflammation of the respiratory tract, used by inhalation, it is said to assist in freeing the respiratory passages from accumulated mucus.

Dosage.—In gastric and duodenal ulcer, typhoid fever and catarrhal gastritis in doses of from five to fifteen minims with cane sugar as a menstruum. As much as a half ounce is said to have been taken at one time with no sign of irritation or toxicity.

Manufactured by the Apinol Chemical Co., Wilmington, N. C., U. S. trademark No. 29,848.

ARTICLES ACCEPTED FOR N. N. R. APPENDIX.

Sharp & Dohme, Baltimore, Md.:

Compressed Tablets Anesthesin, 2 1/2 grains.—Each tablet contains: anesthesin 0.15 Gm. (2½ grains).

Soluble Hypodermic Tablets Atoxyl, 1/3 grain.—Each tablet contains: atoxyl 0.02 Gm. (⅓ grain).

Ampules Solution Atoxyl, 10 per cent., (Sterilized).—Each 100 Cc. contain: atoxyl 10 Gm. (each fluidounce contains 48 grains) dissolved in distilled water.

Ampules Solution Atoxyl, 10 per cent., with Novocaine, 1 per cent. (Sterilized).—Each 100 Cc. contains: atoxyl 10 Gm. and novocaine 1 Gm. (each fluidounce contains atoxyl 48 grains and novocaine 4 8/10 grains) dissolved in distilled water.

Soluble Hypodermic Tablets Novocaine, 1/3 grain.—Each Tablet contains: novocaine 0.02 Gm. (1/3 grain).

Soluble Tablets Novocaine, 1 1/7 grains.—Each tablet contains novocaine 0.074 Gm. (1 1/7 grains).

PHARMACEUTICAL PREPARATIONS ACCEPTED FOR N. N. R.

The following dosage forms of accepted articles have also been accepted for N. N. R.:

Alypin Tablets, 3⅓ grains.
Alypin Tablets, 1⅛ grains.
Alypin Tablets, ¾ grain.
Alypin Tablets, ⅓ grain.
Helmitol Tablets, 5 grains.
Sabromin Tablets, 8 grains.
Veronal-Sodium Tablets, 5 grains.

Therapeutics

SHOCK

In spite of all investigations and of the vast clinical experience, the treatment of shock is still unsatisfactory. The etiology and pathology of the condition is not perfectly understood. Consequently, any scientific investigations that would tend to clarify the cause of shock and the exact condition of the circulation in shock must be welcomed by both physician and surgeon.

It has, of course, long been recognized that acute pain, whether caused by injury, the passage of a calculus through a duct, neuritis, or even acute neuralgia, can cause such a depressed condition of the circulation as to produce shock. Shock caused by severe pain has been supposed to be due to either slowing of the heart and imperfect cardiac contractions by reflexes through the pneumogastric nerve, or by such acute pain interfering with the vasomotor center as to cause greatly diminished arterial tension, and from these actions circulatory depression resulted. It has long been known that abdominal operations particularly predispose to subsequent shock. This has been thought to be due to possible sympathetic nerve disturbance or to a disturbance of the normal activity of the suprarenal glands, or to secondary overwhelming depressant action from the anesthetic.

There can be no question that acute pain from injury or other cause, or that acute pain suffered from the cutting or injury of nerves in incomplete anesthesia, or that acute pain suffered from such an injury, after an

operation is over and the patient out of the anesthesia, is a direct cause of shock, and consequently such pain should always be stopped by the amount of anodyne that is necessary to stop it.

Recent investigations by Yandell Henderson, assistant professor of physiology at the Yale Medical School, seem to show that the reason that acute pain causes shock is not because the pneumogastric is unduly stimulated, is not because the arterial tension is greatly lowered, but is because the inhibition of metabolism from the pain and the increased respiration caused by the pain makes a greatly diminished amount of carbon dioxid in the blood, as well as a hyperoxygenation of the blood. This lack of carbon dioxid in the blood causes a lack of venous tone, and this lack of venous tone diminishes the amount of blood that reaches the auricles and therefore ventricles of the heart during diastole. This means that the output of the heart from each beat becomes less, and in profound shock insufficient. Henderson has found that, besides the inhibition of pain by morphin, ether and chloroform inhalations, in sufficient amount to prevent the appreciation of pain, will prevent shock. He seems to have demonstrated that even when the anesthetic seems sufficient that the sensitive nerves still note injuries and pain and shock may be caused, unless the anesthesia is profound. This means clinically that anesthesia should always be sufficient before operation and during operation. Henderson has also shown that when shock is present it is more satisfactorily treated, and generally successfully combated, by any means that increases the carbon dioxid content of the blood, and such treatment is far ahead in its success of cardiac stimulants and vasoconstrictors. A lowered arterial tension improves rapidly when physiologic saline impregnated with carbon dioxid is administered intravenously. Such improvement is far ahead of transfusion of physiologic saline that does not contain the carbon dioxid.

Henderson attributes the lowered carbon dioxid content of the blood largely to the nervous excitement before operations causing rapid breathing; also the increased breathing caused by the first part of the anesthesia, ether being particularly a respiratory stimulant, giving a condition of hyperoxygenation and lessened carbon dioxid content of the blood, and shock is therefore easily caused.

Henderson terms this condition of diminished carbon dioxid content of the blood acapnia (from the Greek kapnos, meaning smoke), literally a smokelessness.

Henderson further finds by other experimentation that intestinal paresis or paralysis, with consequent abdominal distention, is largely due in abdominal operations to exposure of the intestines to the air. The harm done by such exposure he finds is due to the loss of carbon dioxid from the intestinal vessels. Although this amount is small compared with that lost by the lungs in rapid or deepened respiration, this loss added to that from the lungs in abdominal operations predisposes to shock. He also finds that warm moist applications, the method adopted by most surgeons to keep the intestines at the normal temperature, predisposes to a loss of this carbon dioxid gas, and therefore predisposes to intestinal paralysis. He has shown by experiments on dogs that if the exposed intestines are covered so that the atmosphere does not get to them, he can increase normal peristalsis of the stomach, small intestine, and colon by directing under the covering warm air containing carbon dioxid gas. Such gas also prevents the congestion of the exposed intestines.

Articles on these investigations by Henderson will be found in the *American Journal of Physiology*, February, 1909, and April, 1909, and his views were also presented in a practical manner at the meeting of the American Therapeutic Society, held at New Haven, in May, 1909, a brief abstract of which appeared in THE JOURNAL, June 5, p. 1868.

The practical utility of the above experiments shows:

1. Severe pain should never be allowed; it should be prevented by enough of the narcotic which seems indicated in the individual case.

2. Anesthesia should be complete both before beginning operation and during it.

3. In abdominal operations moist warm cloths should not be applied to the intestines, and except in the exact region of operation the intestines should be protected with some covering that will prevent the exchange of gas from the intestines with the external air.

4. A tank of carbon dioxid gas should be at hand to perfuse through warm water to be directed into the abdominal cavity, if shock occurs during abdominal operations.

5. If shock occurs after operations or after other injuries, transfusion into the veins of physiologic saline saturated with carbon dioxid should be done. Also, at any time during shock, air, or oxygen, with moderate amounts of carbon dioxid should be inhaled.

6. Whenever there is likelihood of pain following the recovery of the patient from anesthesia, morphin should be injected to prevent it.

7. However valuable strychnin injections may be as a stimulant to the nerve centers and as a stimulant to general metabolism to perhaps promote normal cellular activity and perhaps therefore the production of a normal amount of carbon dioxid, excessive amounts of strychnin as a cardiac and respiratory stimulant in shock should not be used. Large doses of strychnin, or strychnin repeated too frequently, seem to interfere with the normal diastole of the heart and prevent the normal filling of the heart cavities and therefore the normal output of the heart into the arteries. Henderson seems to have shown that such cardiac stimulants can not increase the output from the heart cavities.

8. Digitalis would rarely be indicated, if ever, in acute shock. The greatest advantage of digitalis is in cardiac dilatation, and its best activity is in cardiac hypertrophy with dilatation.

If Henderson's investigations are of clinical value, atropin as a respiratory stimulant and a vasoconstrictor would seem contraindicated in shock. The same would be true of suprarenal preparations. Nitroglycerin would also probably not be indicated. Alcohol in doses sufficient to cause cerebral depression and therefore inhibition of metabolism would seem to do harm. Camphor as a cerebral stimulant, perhaps thus increasing metabolism, would seem to be indicated, and hypodermic injections of saturated solutions of camphor in olive oil have many times seemed one of the most valuable stimulants in shock. When the exact physiologic action of ergot on the circulation is better understood, probably the reason will be found for the marked benefit in shock and circulatory depression from its subcutaneous injection.

Whatever the outcome may be of clinical experience, with the apparent logical deduction from Henderson's experiments, anything that will prevent the senseless administration of enormous doses of the so-called cardiac and arterial stimulants and tonics to patients who are in shock will redound to the advantage of the sick.

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[*For other information see second page following reading matter*]

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EPIDEMIC MENINGITIS

In March, 1905, the Health Department of New York City appointed a commission for the investigation of cerebrospinal meningitis, and the work of the bacteriologists, Drs. Elser and Huntoon, of Cornell University Medical College, has been continued until this time, now being reported in a lengthy monograph.[1] This exhaustive, careful piece of research will unquestionably find a place among the most important studies on meningitis yet recorded. The authors have studied bacteriologically 210 cases of epidemic meningitis, and have made extensive investigations of the biology of the causal organism, its differentiation from allied cocci, the serum reactions of man and laboratory animals, the pathogenicity of the meningococcus for lower animals, its viability, and the mode of transmission and invasion of man in epidemics.

Perhaps one of the most striking conclusions reached by the authors is the essential importance of meningococcus carriers in the transmission of epidemic meningitis. As shown by Flügge and others, the number of persons who become meningococcus carriers during epidemics of meningitis is far greater than the number of cases of actual meningitis. A large proportion of the individuals living in the immediate neighborhood of meningitis cases act as meningococcus carriers, without suffering any symptoms or inconvenience whatever. Perhaps 70 per cent. of such exposed persons may harbor meningococci in the respiratory passages, although other individuals equally exposed but not inhabiting the same dwellings seldom become infected. Apart from epidemics, the meningococcus can be found but rarely in healthy individuals, but apparently there are occasional persons who, once harboring this organism in the nasopharynx, carry it permanently and thus perpetuate the disease. It would seem that the meningococcus can readily secure a foothold on the mucous membranes of the majority of persons, but with only a relatively small proportion of these persons can it invade the tissues and exercise its pathogenic effects.

The disease is undoubtedly transmitted directly from person to person, for the meningococcus is of such low vitality that it succumbs quickly to drying, sunlight, and other injurious influences. As persons suffering from the disease are, because of its severity, decidedly limited in their sphere of influence, and as only a very small proportion of those who receive the organism are susceptible to it, the perpetuation and spread of meningitis must depend on the healthy carriers, who pass the meningococcus on from one to another until a susceptible individual is infected and develops meningitis.

Although the meningococcus undoubtedly gains access to the system by way of the respiratory passages, yet Elser and Huntoon do not look with favor on the prevalent opinion that the meninges are reached by direct extension through the base of the skull. They consider that the evidence is more directly in favor of assuming that the meningococci first invade the blood stream, and then localize in the meninges because they have a specific affinity or adaptation for this particular soil. This specific affinity for meningeal tissue, however, would seem to be limited to human tissues, for all attempts to produce meningitis in animals by inoculation of the meningococcus into parts more or less removed from the central nervous system were without results.

As more and more experience with the bacteriology of meningitis is accumulated, the evidence points with increasing weight to the conclusion that a primary meningitis is almost always a meningococcus meningitis. Up to the time of Jaeger's study of epidemic meningitis in 1895, the pneumococcus or some related organism had been generally believed to be the chief cause of primary meningitis, although the meningococcus was described by Weichselbaum in 1887. Subsequent observations, however, have relegated the pneumococcus to a subordinate position until it now seems that it very rarely selects the meninges as a primary point of attack, however often it may invade them after having secured a foothold in some other tissue. As to epidemics of meningitis the pneumococcus may be left entirely out of consideration, there being but one epidemic yet studied bacteriologically which was certainly not due to the meningococcus, and in this the organism responsible seems to have been the *Streptococcus mucosus* or a close relative. The positive diagnosis of primary meningococcus meningitis rests on the demonstration of the specific organism in the cerebrospinal fluid, which seems not to be a difficult matter if proper precautions are taken. Cultivation of the meningococcus is not particularly easy, especially if the cultures can not be placed immediately under suitable conditions for growth, on account of the low vitality of this coccus.

Fortunately, however, it is not necessary to secure pure cultures of meningococci to establish a diagnosis, for, according to the large experience of Elser and Huntoon, the presence in freshly drawn cerebrospinal fluid of Gram-negative cocci is, for all practical purposes, sufficient proof of the presence of meningococci, and if the cocci are intracellular there is no question of their identity. Other Gram-negative cocci do not seem to occur in the spinal fluid, although they may occasionally appear in cultures as contaminations. The

1. Jour. Med. Research, 1909, xx, 377-536.

gonococcus can not be readily distinguished from the meningococcus, but there is no evidence that it is ever a cause of meningitis, and hence it is not a source of confusion. A negative finding is not conclusive, however, especially in early cases, for frequently the meningococcus can not then be demonstrated unless several specimens of meningeal fluid are obtained at intervals and carefully examined.

A GRAND OLD MAN OF SCIENCE

The life-work of Francis Galton should especially interest physicians because his early education was directed toward medicine. His parents wished him to follow in the footsteps of his uncle, Dr. Robert Darwin, the son of Erasmus and the father of Charles, the formulator of the modern doctrine of evolution. And, indeed, at 16 the oculist Bowman took him in hand. Unfortunately for our profession, however, his father bequeathing him an ample fortune, young Galton abandoned the plan of practicing medicine, "though most grateful for the enlarged insight into nature" that he had acquired during his brief medical experience. He then entered on a career in science most multifarious and conspicuous. Throughout his long life he has been a tireless classifier, a founder of laboratories, a framer of subtle systems of classification and of "statistical units"; he has been concerned in meteorology, geography, exploration, pedagogics, mathematical inventions, anthropology, "finger-prints," psychology, heredity. He is the author of one hundred and eighty-three books and memoirs, and now, at 86, he gives us his autobiography.[1] Such is an incomplete enumeration of Galton's activities; who among us would not find any one of these subjects sufficient occupation for a lifetime? In the broad field of his researches we of the twentieth century can not hope to emulate him; for he represents the versatile activities of the nineteenth century giants. To-day the cosmic realm of science has become too vast for one finite mind to grasp; whether we will or no, we have to specialize.

We here emphasize, as of interest especially to our colleagues who have recently taken their degrees, some traits in the character of this remarkable man. His mental development was influenced by the fortunate circumstances in which he has been placed throughout his life, but especially in his youth. In laboratory work, in scientific research, in social intercourse, he has always enjoyed companionship with men of ability, with the best minds of his time. In Cambridge and afterward he knew Maine, Kay, Hallam, Tom Taylor, the Darwins, Spencer, Huxley, Faraday, Tyndall, Gladstone, Burton, Pollock, Tom Hughes, and scores of others of most beneficent intellectual influence. His associations were the best, and he derived enormous profit from them, and in turn he has bestowed benefits tenfold.

1. Galton, F.: Memories of My Life. New York: E. P. Dutton & Co.

Galton has ever paid tribute to the study of medicine as being a most valuable foundation for the well-rounded life; and so it is, in our day at least, even for one who does not contemplate practice. Medical science now lays all knowledge under tribute toward the end of the relief of suffering. It should, therefore, give a solid and comprehensive understanding of the facts of existence and should develop profound humane sympathies.

Another consideration noteworthy for physicians is the mathematical trend of Galton's mind; he has been able, by imparting his valuable ideas, to inspire skilled mathematicians to most fruitful work. He founded a whole school of biometric inquirers, chief among whom is Prof. Karl Pearson; these men, devoting themselves to the quantitative and exact treatment of the problems of heredity, are now developing the science of "eugenics." Here Galton is in agreement with the great Brehmer, who declared that "only the physician who has studied nature and has trained his mind to mathematical science knows how to cure men."

Again, Galton is intensely practical. Every idea in his fertile mind seeks some useful outlet. He has invented a dozen instruments or methods which are now generally employed. (Not one of these, by the way, has been patented.) When, for example, he took up the study of finger-prints he thought that they might prove to be of high anthropologic significance, but he was very soon applying them as a means—the best now in existence—of identifying criminals.

This venerable man maintains unimpaired the true scientist's ravenous and omnivorous curiosity; facts he wants, facts on which to base hypotheses, theories, doctrines, systems. How inspiring is Galton's prodigious energy! Especially is this a cause of wonder, since his means have ever precluded the absolute necessity of hard work. Herein he exemplifies one of the many definitions of genius (and for the physician the best) —that it is an infinite capacity for taking pains. With equal intentness he prepares a memoir on "cutting a round cake on scientific principles;" or he arranges a plan for calling into existence "races of highly gifted artists, saints, mathematicians, administrators, mechanicians, etc." No detail ever escapes him; none is too insignificant to merit his attention. To him we may well apply the motto which still decorates the wall of the little room in Zaardam or Saardam in which Peter the Great lived and broke his bread while learning how to build ships: "Den grooten man is niets te klein," which, being translated, reads: "For the great man there is nothing too small."

CHANGES IN STREET NUMBERS IN CHICAGO

Commencing September 1, all mail for the American Medical Association should be addressed to 535 Dearborn Avenue. This is in conformity to a new system of street numbering adopted by the city of Chicago. The use of the new numbers is compulsory, and physicians

throughout the United States who have occasion to write to Chicago physicians are hereby notified so that they may secure the new addresses. Until the new numbers are ascertained, however, it will be well to prefix the words, "Old No."

All Chicago physicians are asked to send us their new addresses at once in order that THE JOURNAL may be correctly delivered and also that the new addresses may be used in the American Medical Directory. For convenience a blank is given on advertising page 40 of this issue. It will be a favor if Chicago readers will fill this out and send it in immediately. If we could do so, we would save our Chicago friends this trouble and would secure the new addresses from the city authorities, but the latter state that they are entirely unable to handle such an enormous task as would be necessitated if they tried to do this for all the Chicago firms who might desire it.

It is an opportune time for a caution that we have frequently had in mind, namely, that the American Medical Association's building is on Dearborn *Avenue*. Not infrequently a visitor to the city seeks us on Dearborn *Street*. The Association's building at 535 Dearborn Avenue is on the North Side, four blocks north of the river; the building is open for inspection every day, except Saturday, from 8 to 5, and on Saturday from 8 to 1. Members and others are made cordially welcome and are invited to inspect the establishment.

CAN A TUBE BE PASSED INTO THE COLON?

A valuable contribution to the question of the practicability of the high enema will be found in the present issue in the paper of Dr. Soper. It seems to be the belief of the majority of physicians in this country that the soft rubber tube can be passed beyond the sigmoid flexure, though this has been disputed by high authorities abroad. Dr. Soper's experiments and the skiagrams show that in many cases, perhaps in nearly all, the tube does not pass beyond the dome of the rectum and that it is only in exceptional conditions of dilatation and hypertrophy of the colon that it can be successfully introduced beyond the sigmoid flexure. If it could go further, there is still difficulty to be overcome before the injection could be carried anywhere near the cecum, as some have claimed. The splenic flexure especially would seem to be a difficult place to pass. It is often a very acute turn and has been credited with causing decided intestinal obstruction under certain conditions. The need of introducing the injection tube beyond the rectum is probably in most cases an imaginary one. Soper himself says that he has frequently demonstrated the possibility of flushing the entire colon by using a large caliber (one-half inch) short tube. It is certainly much easier to depend on an enema finding its own way beyond the flexures than to endeavor to carry it beyond them. The fluid will probably, in almost every instance, find its own way through the large intestine if sufficient pressure is employed and we thus avoid the danger of causing irritation and premature expulsion of the liquid. Of course, with a slightly bent sigmoid or with its total absence, the higher injection is possible, but such conditions are exceptional and not to be reckoned on. A tube of sufficient rigidity to force its way would hardly be advisable for general use.

THE SEPTUAGENARIAN PEDESTRIAN

Edward Payson Weston's performance of walking 3,975 miles in 105 days is a sufficiently noteworthy fact to deserve mention in a medical journal, even though he did not fully carry out his program of completing his walk in the time specified. It should be recollected that he comes before the public in this spectacular way after about a quarter of a century of comparative obscurity in which there are no records of any such unusual performances. He had been simply taking care of himself in the interval, and now comes out to show what a man can do after passing the psalmist's limit of human life. Probably many other men with like training and temperate habits could somewhat approximate his record.

Medical News

IDAHO

Personal.—Dr. William A. Wright, Pocatello, has been appointed surgeon general of the Idaho National Guard with the rank of colonel.——J. H. Wallace, clerk of the last House of Representatives, has been appointed pure food commissioner by the State Board of Health.

Epidemic Diseases.—The epidemic of scarlet fever and diphtheria of Wallace is abating. On July 5, no new cases had been reported for ten days.——Scarlet fever is reported to be epidemic at Kellogg, and diphtheria at Bonner's Ferry, where Dr. E. Esher Fry is said to be ill with the disease.

New State Officers.—The Idaho State Medical Association, at its seventeenth annual meeting, held in Seattle, Wash., July 20-22, elected the following officers: President, Dr. James L. Stewart, Boise; vice-president, Dr. George H. Coulthard, Idaho Falls; and secretary-treasurer, Dr. Edward E. Maxey, Boise.

ILLINOIS

Pleads Guilty.—Dr. Edwin A. Weimer, Pekin, charged with sending an improper letter through the United States mails, who pleaded guilty, is said to have been fined $100 and costs in the United States District Court, July 21.

Found Not Guilty.—Dr. Charles F. Barstow, Freeport, who has been on trial charged with the murder of a young woman of Council Hill by the performance of an illegal operation, is said to have been found not guilty on the first ballot of the jury, July 6.

Medical Staff Appointed.—At a meeting of the Galesburg Hospital board July 9, the following medical staff was appointed: Drs. James F. Percy, William O'R. Bradley, William H. Maley, Ralph C. Matheny, Edwin N. Nash, Delia M. Rice, Carl G. Johnson, George S. Bower, John H. Bryant and Clarence B. Ripley.

The Afflicted.—Dr. J. Bradley Crandall, Sterling, is reported to be steadily improving in health in Montpelier, Vt.——Dr. Nathaniel S. Parsons, Kewanee, who has been ill with cerebral hemorrhage, is reported to be convalescent.——Dr. Lewis W. Kreiger, Peoria, who has been ill with septicemia, is reported convalescent.——Dr. Alexander C. Smith, Sterling, is reported to be convalescent.——Dr. William A. Hinckle, Peoria, was painfully injured in a street car accident, July 14.

Personal.—Dr. James L. Greene, superintendent of the Kankakee Hospital for the Insane, has been appointed the alienist member of the board of administration for the state institutions.——Dr. James A. Nowlen has succeeded Dr. Frank Fitzgerald, resigned, as local surgeon of the Chicago and Northwestern Railway Company at Morrison.——Dr. Harry C. Blankmeyer has been appointed pathologist and Dr. Morris Altman, obstetrician on the staff of the Springfield Hospital.——Dr. W. E. Shallenberger, Canton, has been appointed local surgeon for the Chicago, Burlington and Quincy and the

Toledo, Peoria and Western railroads.——Dr. J. Rex Sholl has been appointed health commissioner of Peoria, vice Dr. Albert Weil, resigned.——Dr. Stephen C. Glidden, Danville, chief surgeon of the Illinois Traction System Hospital Association, has resigned.——Dr. R. T. Hinton has succeeded Elmer L. Crouch, resigned, on the staff of the Jacksonville Hospital for the Insane.——Dr. Penn W. Ransom, Rockford, who was sued by the *Journal of Nervous and Mental Diseases* to recover $125 alleged to be due on an advertising contract, is said to have won his suit, as the testimony showed that he had ordered the advertisement taken out of the journal.

Chicago

Off for Europe.—Dr. and Mrs. Lewis L. McArthur, Dr. and Mrs. Cassius C. Rogers and Drs. Harriet C. B. Alexander, E. Fletcher Ingals and George E. Shambaugh have sailed for Europe.

National Medical Not in Good Standing.—At a meeting of the Illinois State Board of Health, April 14, the National Medical University is said again to have been voted a college not in good standing.

Change Your Address.—Commencing September 1, the number of the American Medical Association Building will be 535 Dearborn avenue. This is in conformity with the new system of street numbers of the city. All Chicago physicians are asked to fill in the blank on advertising page 40 of this issue so that their addresses may appear correctly in the American Medical Directory and so that their copies of THE JOURNAL may reach them promptly.

To Aid Babies.—The health department has appointed the following 10 physicians to cooperate with the United Charities and Infants' Welfare Committee in their endeavor to reduce the infant mortality list of the summer: Drs. Caroline Hedger, Anna Dwyer, Katherine B. Rich, Johanna Tow, T. Grant Allen, Harold Diefendiefer, M. A. Bernstein, Samuel Perlstein, Samuel Kalaginski and Henry Stieble. Five large tents where ailing babies may be cared for have been placed in various parts of the city in crowded districts.

MARYLAND

School of Instructions for Military Surgeons.—At the school of instructions established by the Army for the benefit of members of the medical department of the national guard at Antietam, 82 militia medical officers have been in attendance. The term of instruction began July 16 and will continue until August 11.

New Psychiatric Ward.—Plans have been completed for the new psychiatric ward given to Johns Hopkins Hospital by Mr. Henry Phipps of New York City. The building will be of dark brick and stone and in conformity with the other buildings of the institution. The idea of non-restraint will be carried out as far as possible. Windows will be guarded by flower-boxes and trellises instead of bars, and suitable arrangements for recreation and exercise will be supplied.

Personal.—Dr. J. Mark Baldwin, professor of physiology and psychology in Johns Hopkins University, has resigned.——Dr. Charles W. Mitchell has been elected professor of medicine in the University of Maryland, vice Dr. Samuel C. Chew, resigned, and in addition will continue to lecture on diseases of children; Dr. Arthur M. Shipley will succeed Dr. Mitchell as professor of therapeutics, and will continue to lecture on surgical pathology; Dr. Harry Adler has been appointed clinical professor of medicine and director of the clinical laboratory, and Dr. Irving J. Spear, clinical professor of neurology and psychiatry.——Dr. W. F. Clayton has succeeded Dr. Joseph B. Webster as sanitary officer of the fourteenth district, Baltimore.

MASSACHUSETTS

Illegal Practitioner Fined.—William M. Lindsey, "clairvoyant" and "magnetic healer" of Worcester, charged with the unlawful practice of medicine, is said to have been found guilty and fined $100 July 8. The defendant appealed.

Ophthalmia of the New-Born.—The committee appointed by the Massachusetts Medical Society to consider what measures should be taken by the society to prevent the occurrence and secure the prompt and effective treatment of ophthalmia neonatorum, has issued a pamphlet dealing with the preventive treatment, suggestions to physicians and nurses, and the treatment of the disease, concisely and plainly written and easy to be understood. Two sections of the revised Massachusetts laws bearing on the subject are quoted in the appendix to the leaflet.

Bequests.—By the will of the late Carrie F. Abbott, Cambridge, $5,000 is bequeathed to the Cambridge Hospital.——After the payment of the many legacies, the balance of the property of the late Miss Mariam S. Shattuck, which will amount to at least $10,000, is bequeathed to the Massachusetts General Hospital. The fund is to be known as the Shattuck Memorial fund, in memory of her mother, Clarissa Baxter Shattuck.

Boards of Health Meet.—At a quarterly meeting of the Massachusetts Association of Boards of Health held at Gallup's Island, Boston Harbor, July 22, Dr. Leslie H. Spooner, Boston, read a paper on "Typhoid Fever: Incidence of the Disease as Contracted Within the Massachusetts General Hospital from 1899 to 1908 Inclusive." Dr. Mark W. Richardson, Boston, secretary of the State Board of Health, opened the discussion, making special reference to the use of specific inoculation in the prevention of typhoid fever, in which he advocated the compulsory inoculation against typhoid fever of nurses, hospital attendants, physicians, soldiers and sailors.

MISSOURI

Postgraduate Club.—The physicians of Carthage have organized a postgraduate club and elected the following officers: Vice-president, Dr. Wallace E. Steele; secretary, Dr. Everett E. Powers; and treasurer, Dr. Calvin B. Taylor.

Students' Infirmary.—Parker Memorial Hospital, which was established at the University of Missouri, Columbia, by James L. Parker as a means of clinical instruction for the school of medicine, has been converted into a students' infirmary. Dr. Guy L. Noyes has been continued as superintendent.

Personal.—Dr. Frederick A. Patterson, St. Joseph, has temporarily succeeded Dr. W. F. Kuhn, removed, as superintendent of State Hospital No. 2, St. Joseph.——The following appointments and promotions are announced in the St. Louis University School of Medicine: Dr. Martin F. Engman, professor of dermatology, vice Dr. John H. Duncan, resigned, and Drs. John W. Marchildon, J. J. Honwink and Russell D. Carman, promoted from instructors to assistant professors of bacteriology, dermatology and roentgenology respectively.

St. Louis

School Incorporates.—The St. Louis School of Physicians and Surgeons Real Estate and Holding Company has been incorporated with a capital stock of $50,000 by Dr. Waldo Briggs and others.

University Plans Hospital.—The advisory board of the St. Louis University has had prepared plans for a new modern hospital to cost $500,000. The university will acquire the site and the Sisters of the Incarnate Word will build and maintain the institution.

Personal.—Dr. John C. Murphy, professor of obstetrics in the St. Louis College of Physicians and Surgeons, has resigned.——Dr. M. E. Toland will soon leave for China as a medical missionary.——Drs. William H. Freudenstein, Albert Beisbarth, Joseph H. Humphrey and Jacob J. Singer, assistant physicians at the city hospital, have resigned.——Dr. Frank Boucher, intern in St. Mary's Hospital, is said to be seriously ill with meningitis.

NEW YORK

Increase in Cancer.—The State Department of Health reports that the deaths from cancer in this state show a marked increase. In 1885 the total number of deaths from cancer was 1,887, and last year the total was 6,551, the highest on record. Statistics filed thus far indicate that the fatal cases for 1909 will surpass those of 1908.

New Hospital.—The Little Sisters of the Poor of St. Francis, Brooklyn, are about to erect a brick building for hospital purposes in Woodhaven. The new hospital will be called St. Anthony's. The only return that will be asked from a patient will be that, when convalescent, he will help in the care of those too ill to help themselves.

New York City

Personal.—Drs. Francis T. Kinnicut and Walter B. James returned from Europe July 29.——Drs. Frank H. McLaury and James F. Markoe have gone abroad.

To Succeed Mayer.—Dr. August Hoch, physician to the Bloomingdale Asylum and assistant professor of psychiatry in Cornell Medical College, will succeed Dr. Adolph Mayer as director of the Pathological Institute of the New York State Hospitals for the Insane.

To Teach the Public.—Extensive preparations under the directions of the Board of Health have been made for the purpose of instructing the public as regards pulmonary tuberculosis. Stereopticon exhibitions will be given during August in the public parks and recreation piers in the boroughs of Manhattan and the Bronx.

Faculty Changes.—The following appointments have been made in the medical department of Cornell University: Dr. Frank Sherman Meara, professor of therapeutics and clinical medicine; Dr. Charles N. Bancker Camac, professor of clinical medicine; Dr. William J. Elser, professor of bacteriology; Drs. John A. Hartwell and William B. Coley, professors of clinical surgery; Dr. Silas P. Beebe, assistant professor of experimental therapeutics, and Dr. J. Merlin, assistant professor of physiology.

Health Insurance Plan.—An old line insurance society has perfected plans for the establishment of a policy holders' health bureau. The object is to help members to discover disease in time to check and cure it. Diseases of the heart, brain, kidneys and other degenerations are increasing, and in order to prevent this class of diseases members will receive free medical examinations every two years. The society will issue health bulletins from time to time giving policy holders the benefit of the discoveries of science and the experience and advice of medical authorities.

Conference of Pharmacists.—The Retail Druggists' Protective Association has planned a conference to be held late in August or early in September to push the agitation for an altered system of pharmaceutical supervision. A special attempt will be made to bring the question of the status of the present Board of Pharmacy into the courts for settlement. The association would have the board appointed by the governor and not elected by the incorporated pharmaceutical associations, as at present. It would also restrict the board to the examination and licensing of candidates and would not allow it the police power which it has at present. The association purposes to form a compact organization to oppose the Brown bill and to fight the State Pharmaceutical Association, which has committed itself irrevocably to that measure.

Insurance Company Wants Sanatorium.—The plan of a large life insurance company to build a huge sanatorium for the treatment of tuberculosis among its policy holders has been laid before State Superintendent Hotchkiss. It is said that Mr. Hotchkiss is in favor of the plan but is in doubt as to whether the law will permit it. The law allows an insurance company to buy land for company business, but it is a question whether the proposed plan can be considered as company business. An option has already been secured on a site and the plans for the institution have been made which would accommodate 200 patients. The plan is designed primarily for the 3,000 employés of the home office and the 11,000 agents in the field, but occasional policy holders would be admitted. The entire expense of the undertaking will be borne at first by the company. As a part of the general scheme of education the company will send broadcast from its presses in the near future 3,500,000 copies of a pamphlet entitled "A War Upon Consumption." This pamphlet will be printed in ten languages.

NORTH CAROLINA

Free Dispensary Opened.—The Salvation Army has opened a free dispensary in Greenville, for treatment of diseases of the eye, ear, nose and throat.

In Favor of Defendants.—In the suit for alleged malpractice brought against Drs. Romulus Armfield, Marshville, and H. Moses Brooks, Olive Branch, by Mr. and Mrs. J. B. Kirker of Anson county, the jury returned a verdict in favor of the defendants.

Antituberculosis Association Organized.—The Guilford County Antituberculosis Association was organized at Greensboro, July 22, and the following medical men were elected officers: Secretary, Dr. John R. Williams, and directors, Drs. William P. Beall and John R. Williams, and E. W. Gudger.

Faculty Changes.—The following changes in the faculty of the Medical School of the University of North Carolina, Raleigh, are announced: Dr. John Sasser McKee, demonstrator of obstetrics; James Madison Harper, assistant demonstrator of clinical pathology; Dr. Claude O. Abernethy, professor of diseases of the skin and genitourinary system, vice Dr. Andrew W. Goodwin, resigned.——Dr. John B. Powers has been elected dean of the medical department of Wake Forest University, vice Dr. Watson S. Pankin, who resigned to become secretary of the State Board of Health.

Personal.—Dr. Lawrie J. Arnold, Lillington, has been elected superintendent of health of Harnett county, vice Dr. Joseph W. Halford, Chalybeate.——After serving nearly 17 years as secretary and treasurer of the North Carolina Board of Health and editor of its *Bulletin*, Dr. Richard H. Lewis, Raleigh, has relinquished these duties to Dr. Watson S. Rankin, Wake Forest.——Drs. Edward J. Wood, Wilmington, William L. Dunn, Asheville, and William DeB. MacNider, Raleigh, have been appointed by the Medical Society of the State of North Carolina the committee from the state on the revision of the United States Pharmacopeia.——Dr. John M. Manning has been elected president, and Dr. Thomas A. Mann, health officer and clerk of the Board of Health of Durham.

OREGON

Board of Examiners Elects.—At a business meeting of the State Board of Medical Examiners held in Portland, July 7, the following officers were elected: President, Dr. Edward Bruce McDaniel, Baker City; secretary, Dr. Robert C. Coffey, Portland; and treasurer, Dr. A. P. Watson.

Graduation Exercises.—The forty-third annual commencement exercises of Willamette University Medical Department, Salem, were held June 2, when a class of 8 was graduated. The president of the university conferred the degrees, Judge Webster of Portland delivered the doctorate address, and Dr. John N. Smith, Salem, the charge to the class.

State Association Election.—The following officers were elected by the Oregon State Medical Association at its thirty-fifth annual meeting held in Seattle, Wash., July 20-22: Dr. Edward A. Pierce, Portland, president; Drs. Roy C. McDaniel, Baker City, and George R. Farra, Corvallis, vice-presidents; Dr. William House, Portland, secretary; Dr. Edna D. Timms, Portland, treasurer, and Dr. Charles J. Smith, Pendleton, delegate to the American Medical Association. The association will meet in Pendleton in 1910.

PENNSYLVANIA

Philadelphia

Gone Abroad.—Drs. Norman S. Betts, George E. de Schweinitz, Francis X. Dercum, George W. Norris and Paul J. Sartain have sailed for Europe.

Sanitary Drinking Cups.—The Pennsylvania Railroad has installed at the drinking fountains in Broad Street Station and on some of the trains running between Philadelphia and Buffalo, individual drinking cups for the accommodation of the public. At Broad Street Station the cups are placed in glass tubes attached to the drinking fountains. They are made of paraffin paper and are obtained by dropping a cent in a slot machine of which the glass tube forms a part.

Anti-Expectoration Crusade.—A vigorous crusade against expectoration in public places is to be conducted by the Pennsylvania Society for the Prevention of Tuberculosis. Under the terms of the Sproul bill, which passed the legislature a year ago, expectoration in street cars and all public places is subject to a fine of $1. It is the intention of the society to enforce this law. Constables have been sworn in for the detection and arrest of offenders. The work of the prosecution is in the hands of Edward Abrams. Signs directing the attention of the public to the law are to be placed in all public institutions and conveyances.

SOUTH CAROLINA

Journal Changes Location.—Beginning with its June issue, the *Journal of the South Carolina Medical Association* is issued from Florence. Dr. Frank H. McLeod is editor, and Dr. J. Gregg McMaster, Florence, business manager of the journal.

State Laboratory Opened.—The Laboratory of the State Board of Health, Columbia, was opened for work, July 1. The scope of the institution at present is bacteriologic examinations looking to the prevention of contagious and infectious diseases, and the administration of the Pasteur treatment for rabies. The bacteriologic work includes the examination of water, milk, sputum, the Widal test, cultures for diphtheria, etc. No charges made for examination or treatment. Dr. Francis A. Coward is director in charge of the laboratory.

WASHINGTON

Personal.—Dr. Guy S. Peterkin, Seattle, was thrown from his horse recently and sustained a fracture of the pelvis.——Dr. Matthew B. Grieve, Spokane, has resigned as city health officer.——Dr. N. Fred Essig, Spokane, has been seriously ill with erysipelas.

Hospital Notes.—James J. Hill has given $2,000 to the building fund of the Children's Orthopedic Hospital, Seattle.——Seattle and King counties have agreed to install and maintain a sanatorium for tuberculosis at Riverton. The site contains 7 acres, and the initial expense will be about $5,300.

Resent Report of Exorbitant Charges.—The medical men of Seattle resent the report that they are making exorbitant charges for certificates of good health before marriage certificates can be issued; and state that the fees for medical examinations have ranged from nothing to $2.50, including the certificate and notarial fees.

New Officers of State Association.—At the annual meeting of the Washington State Medical Association, held in Seattle July 20-22, the following officers were elected: President, Dr. William D. Kirkpatrick, Bellingham; vice-presidents, Drs. John M. Semple, Medical Lake, and William M. Beach, Shelton; secretary, Dr. Curtis H. Thomson, Seattle; treasurer, Dr. Leon L. Love, Tacoma, and delegate to the American Medical Association, Dr. James R. Yocum, Tacoma.

WISCONSIN

Sanitarium Burns.—Fox Lake Sanitarium, formerly Downer College, has been destroyed by fire with a loss of $200,000. No casualties resulted. Insurance on the building amounted only to $25,000.

New Tuberculosis Sanatorium.—Dr. Gerhard A. Bading, health commissioner of Milwaukee, has received plans for a tuberculosis sanatorium to be erected in Wauwatosa. The building will be erected on the top of a hill, will be two stories in height, and will have large porches on three sides to enable the patients to get the advantage of the sunshine and air.

Personal.—Dr. Raymond H. Stetson of Beloit College has been appointed professor of psychology at Oberlin (Ohio) College.——Dr. Charles M. Schoen, city bacteriologist of Milwaukee, is ill with diphtheria.——Four new appointments to the state board of examiners have been made by the governor: Dr. Milton A. Barndt, Milwaukee (reappointed); Dr. John M. Beffel, Milwaukee, succeeds Dr. Patrick H. McGovern of the same city; Dr. Charles W. Rodecker, Wonewoc, succeeds Dr. John V. Stevens, Jefferson.

GENERAL NEWS AND COMMENT

Formation of the Public Health Education Committee.—In accordance with the resolution unanimously passed by the House of Delegates of the American Medical Association at Atlantic City, June 10 (minutes in THE JOURNAL, June 19, page 2083, and editorial in THE JOURNAL, July 3, page 34), authorizing the women members of the A. M. A. to elect a committee to commence a campaign of public education in the cause of preventive medicine, the women members were invited to meet July 20, at 6 East Fifty-eighth street, New York City. Representative women from many parts of the United States were present, and more than two hundred letters and telegrams were received from both women and men members of the association, expressing warm sympathy with the movement and a desire to cooperate. Dr. Sarah R. Adamson Dolley, the first American woman to receive a diploma in medicine, was called to the chair, and expressed appreciation of this opportunity to cooperate in a cause destined to have far-reaching results of incalculable benefit. She vacated the chair in behalf of Dr. Rosalie Slaughter Morton, whose opening address included a plan of work afterward incorporated in the form of resolutions. A secretary for each state will subdivide the work of her state according to counties, and will keep in touch with the central committee. The following members were elected to form the central committee:

Honorary Chairman, Sarah R. Adamson Dolley	Rochester, N. Y.
Chairman, Rosalie Slaughter Morton	New York City
Secretary, Evelyn Garrigue	New York City
Treasurer, Emma C. Hackett	New York City
Rose Talbott Bullard	Los Angeles
Laura L. Liebhardt	Denver
Sara Craig Buckley	Chicago
Lilian H. South	Bowling Green, Ky.
Annie Lee Hamilton	Boston
Margaret Halliday	Austin, Texas

The most important points in the plan outlined by Dr. Morton were embodied in resolutions, which may be briefly summarized as follows:

1. To influence the local women's medical associations throughout the country to hold one or more open meetings to which the public shall be invited and at which will be discussed the prevention of diseases and the general hygienic welfare of the people.

2. To collect data for future use, such as copies of the programs at the meetings above mentioned, lists of women's clubs, girls' schools, mothers' clubs, social settlements, etc., lists of lecturers who can be obtained and topics which are recommended, etc.

3. To endeavor to have women's organizations appoint active committees on hygiene to see that club programs include addresses on preventive medicine, etc.

4. Since there is no appropriation for the expenses, to request each woman member of the American Medical Association to pay $2 to her state secretary of the Public Health Education Committee of the American Medical Association, the state or city secretary retaining one-half for state expenses, and sending the other half to the secretary of the national committee, Dr. Emma C. Hackett, 1700 Broadway, New York City.

A full report of moneys received and expended and of all meetings held and all plans for the future is to be made to the House of Delegates of the American Medical Association at the St. Louis session, and an appropriation for the continuance of the work is expected to be made by the Board of Trustees. The committee is perfecting a mailing list of all women members of the Association that it may inform them of the work and secure their cooperation. The next meeting of the committee is to be held in St. Louis the evening before the annual session of the American Medical Association. The chairman, secretary and treasurer were empowered to take in charge and carry on all work which was unfinished at this meeting.

Change of Date.—The date of the annual meeting of the American Electro-Therapeutic Association, in New York City, has been changed from September 14-16 to September 28-30.

Surgeons Receive Charter.—The American Surgical Association was given a charter in the State of Pennsylvania, July 9. The petition for its incorporation was signed by Drs. William W. Keen, J. Ewing Mears, Robert G. Le Conte and Richard H. Harte.

International District Medical Association Formed.—As announced in THE JOURNAL, July 3, the medical associations of British Columbia, Idaho, Oregon and Washington, met in Seattle, July 20-22, and in addition to their annual meetings, combined to form The Pacific Northwest District Medical Association. Each state association will act in turn as host to the district association. The papers presented will appear in *Northwest Medicine*, the official organ. Two associate editors are to be chosen from each component society. The officers elected in the various societies are given in this issue.

District Societies Meet.—The sixth annual meeting of the N. S. Davis District Medical Association was held in Keokuk, Iowa, July 13, and the following officers were elected: President, Dr. James R. Bridges, Kahoka, Mo.; vice-presidents, Drs. William W. Milligan, Burlington, Iowa, and Frank B. Dorsey, Keokuk, Iowa; secretary-treasurer, Dr. Edward N. Hanson, Keokuk; and censors, Drs. Frank M. Fuller, Keokuk, Josiah C. Taylor, Hamilton, Ill., and Hauphrey H. Sherwood, Bowen, Ill.——The annual meeting of the Iowa and Illinois District Medical Society was held in Davenport, July 8. Dr. George M. Middleton, Davenport, was elected president; Dr. Shelley B. Hall, Rock Island, vice-president; Dr. J. H. Kulp, Davenport, secretary, and Dr. Theodore W. Kemmerer, Davenport, treasurer.

CANADA

Provincial Association Formed.—The Alberta Medical Association was organized at Lethbridge, July 23, with the following officers: President, Dr. L. George De Veber, Lethbridge; vice-presidents, Drs. Keillor Sterling and Charles E. Smyth, Medicine Hat, and secretary, Dr. Campbell, Lethbridge.

British Columbians Meet in Washington.—The British Columbia Medical Association held its tenth annual meeting in Seattle, Wash., July 20-22, and elected the following officers: President, Dr. Robert W. Irving, Tranquille; vice-president, Dr. J. S. Burris, Kamloops; secretary, Dr. R. Eden Walker, New Westminster, and treasurer, Dr. James D. Helmcken, Victoria.

French Medical Association.—The members of the Montreal section of the French Medical Association of America met at Laval University, Montreal, July 6. Dr. J. J. Guerin acted as chairman and Dr. Louis Verner as secretary. Dr. Elzear Pelletier was elected president; Drs. Michel D. Brochu, Alfred Simard and C. Dagneault were elected delegates from Quebec, and Drs. J. J. Guerin, Emmanuel P. Benoit, Rheaume, Charles N. Valin, Latreille, F. X. de Martigny, Louis Verner, Henri Hervieux, Amedée Marien, J. A. Le Sage, Eugene Saint-Jacques, Brisset, Bourguoin, Raoul Masson, Benjamin G. Bourgeois, Joseph Asselin, Recarie and Boucher, delegates from Montreal. The next meeting will be held in Sherbrooks in August, 1910.

Ontario Medical Council Meeting.—The Ontario Medical Council at its meeting held during the week ended July 10, decided after discussion to take prompt action in all criminal cases and to have the names of all practitioners found guilty of unprofessional conduct removed promptly from the register. The question of reciprocity with Manitoba and other provinces was discussed at length, and two delegates were appointed to meet the representatives from these provinces at the session of the Canadian Medical Association in Winnipeg, August 23 to 25, where the entire question of Dominion registration

will be taken up. Dr. E. A. Patrick Hardy, Toronto, was elected president, and Dr. James L. Bray, Toronto, was re-elected registrar of the council.

FOREIGN

Third International Congress for School Hygiene.—The organizing committee of this congress, which is to meet at Paris, March 29, 1910, has just issued a pamphlet in which fifty pages are devoted to the lists of committees of propaganda in the various countries interested, the rest of the pamphlet containing the statutes, sections, etc. The congress is open to all taking an interest in school hygiene. The proposed American committee is headed by Dr. John H. Musser as president, Dr. A. T. Cabot, vice-president, and Dr. T. A. Storey, 611 W. 137th street, New York City, as secretary and treasurer, with eleven pages of names of the members of the American committee, including noted physicians, teachers, physical instructors, and others.

Roumanian Physicians Can Not Attend International Congress.—The physicians of Roumania have sent out a circular signed by Professor Jonnesco stating that it will be impossible for them to participate in the festivities connected with the approaching International Medical Congress at Budapest as the Hungarian authorities have recently imprisoned a Roumanian woman, the wife of a Hungarian deputy, whose sole crime was that she told the Roumanian children in a certain Roumanian school that it was their right and their duty to cultivate their mother tongue. The circular states that if Hungarian "justice" denies to Roumanians the right to a mother tongue, Roumanian physicians as citizens and patriots are obliged to refrain from participating in the congress on Hungarian soil. The language of the little kingdom is in some respects nearer to Latin than any other of the Romance languages—the very name, Roumania, is from *Romanus*, Roman. About a third of the 9,000,000 people speaking Roumanian are under Austria-Hungarian rule, as the population of Roumania proper is only 6,000,000.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 24, 1909.

International Congress on Alcoholism

The twelfth International Congress on Alcoholism has been held in London. It was attended by about 1,400 members which included 400 delegates from abroad. The latter came from all parts of the world. The largest foreign contingent, over 120 strong, came from Germany. Though the tone of the congress was largely that of total abstainers, it was by no means confined to these, as no test of opinion was imposed on the members. The British dominions were largely represented and an official character was given to the congress by the representatives of the various government departments—Home Office, Colonial Office, Local Government Board and Board of Education, and the various representatives of foreign and colonial governments. These included representatives of most of the European countries, the United States, the Australasian commonwealth, the East African Protectorate, the Gold Coast, India, Hong Kong and Jamaica. Lord Weardale, the president, in opening the congress, said that they were assembled to discuss one of the most sacred causes to which humanity could give attention, the great cause of international temperance. Among the many important questions to be dealt with were the influence of alcoholism on children and on the native races. A discussion on temperance teaching in schools was opened by Miss Cora Stoddard of Boston, U. S. A., who insisted that temperance teaching should be commenced early. In the discussion great importance was attributed to this teaching and also to instruction of the school teachers so that they could impart temperance hygiene. Dr. A. Holitscher of Karlsbad read a paper on "Alcohol in Lobar Pneumonia and Enteric Fever." He had collected statistics from 47 hospitals in 18 of which a plan of alterating treatment, proposed by him had been adopted in order to secure the most reliable proof of the effect of alcoholic and non-alcoholic treatment. In 238 cases of pneumonia treated with alcohol the death rate was 24.3 per cent.; in 248 cases treated without alcohol the death rate was 21.3 per cent. Of 47 cases complicated with delirium tremens alcohol was prescribed in 21, of which 15 were fatal, while in 26 treated without alcohol only 9 were fatal. This showed that there was no foundation for the prevalent idea that alcohol was necessary in inebriate cases. No one would wish to make alcohol responsible for the small difference between the percentages of 24.3 and 21.3, but it showed the failure of alcohol as a curative agent. Of 161 typhoid patients treated in 8 institutions 80 were treated with alcohol, of whom 15 died and 81 were treated without alcohol, of whom 12 died. Professor Laitinen, director of the hygienic institution in the University of Helsingfors, delivered the Norman Kerr Memorial Lecture on "The Influence of Alcohol on Immunity." It was, he said, well-established that alcohol weakened the normal resisting power of the body against the germs of disease. He had made experiments on the blood of 223 persons, abstainers and non-abstainers, whose conditions of life and in other respects were similar. He concluded from his experiments that alcohol in comparatively small doses had a prejudicial effect on the protective mechanism of the body. A great sensation was produced by the paper read by Dr. Doczi, official reporter to the alcohol commission in Budapest. He declared that total abstinence was almost unknown in that city among children and that they indulged freely on the occasion of festivities, such as holidays, baptisms and weddings and frequently arrived at school in an intoxicated condition.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, July 22, 1909.

The Concours d'Agrégation in Medicine

A few months ago, in consequence of certain occurrences at the *concours d'agrégation* at the College of Medicine last December (THE JOURNAL, Jan. 16, 1909, lii, 223), the representatives of the organized medical profession requested the government to appoint a commission to study the various modes of recruiting the auxiliary professors of the schools of medicine; and another session of the commission on the *agrégation* and the privat-docentship has just been requested on behalf of the various medical societies.

Moreover, an order temporarily modifying certain provisions of the statute regulating the *concours d'agrégation* has just been submitted to the Superior Council of Public Instruction pending the results of a new investigation, to be as extensive and exhaustive as possible. The first important reform granted by the temporary order is that of the juries. The members of the juries will not be, as hitherto, chosen by the ministry. They will be selected by lot, from among the professors of the colleges of medicine and of the mixed colleges of medicine and pharmacy. Another reform no less important consists in the increase in the number of sections. The *agrégation* of medicine hitherto has consisted of only four sections: anatomy and physiology; physics and natural science; medicine and legal medicine; surgery and obstetrics. The number of these sections will be increased to fifteen, so as to permit the candidates to specialize more freely and to do more scientific work.

Monument to Professor Brouardel

The dedication of the monument in the court of honor of the College of Medicine of Paris to Professor Brouardel, the lamented dean of the college, took place on July 20. The monument, by the sculptor Denys Puech, consists of a stela on which is the marble bust of Brouardel, wearing the insignia of his office. At the foot are two allegorical figures representing Hygiene and Legal Medicine. The funds were raised by public subscription under the auspices of M. Emile Loubet; the Anti-Tuberculosis Association of Berlin in particular subscribed 1,000 marks ($240). A large crowd, among which were Professor Brouardel's widow and son, as well as a great number of distinguished scientific and medical men, were present at the ceremony.

Medical Charlatanism and Illegal Practice of Medicine

A former zouave named Jacob was recently prosecuted for illegal practice in medicine, and was acquitted. Clothed in a white robe, Jacob was accustomed to present himself to those who came to see him and to gaze at them fixedly while invoking the spirits. He asked no question, prescribed no rule, and ordered no remedy. He passed among the benches on which the spectators were seated, touched them lightly with the hand, received from them their voluntary offerings and terminated the session by counseling them in a general way to drink no wine, no alcohol, to eat only vegetables, and to use no medicine. The court decided that in giving uniform counsels without any regard to the specific diseases of his auditors, Jacob did not treat maladies within the meaning of the law.

Another case of illegal practice of medicine now arousing public opinion in Paris, is that of a certain Vallanet, who called himself a physician and practiced medicine for more than ten years in Paris, until accused of fraud. In the course of the prosecution it was established that the pretended physician had no diploma and had studied medicine only a year.

According to the law of 1892, doctors of medicine, surgeon-dentists and midwives must, in the month following their es-

tablishment in the locality, have their diplomas officially registered in their respective wards (*arrondissement*). The lists of practitioners so recorded, according to law, are to be posted during the month of January in each commune so that it is easy to ascertain if a given person is practicing medicine legally. Unfortunately, in Paris, the physicians, dentists and midwives being extremely numerous, the notices are not posted up. The prefecture of the police merely publishes, at the beginning of each year, a pamphlet, which is placed in all the mayors' offices in which are the names of the physicians who have registered their diplomas and who are, consequently complying with the law.

To avoid a repetition of such an occurrence as this scandalous Vallanet affair, a modification of the law of 1892 on the practice of medicine has been proposed in the senate to the following effect: Doctors of medicine, surgeon-dentists and midwives are to be obliged before beginning the practice of their profession, to have their certificates officially registered in their respective wards, and to have their diplomas examined at the mayors' offices of the places at which they respectively reside.

Market Milk in Paris

In the session of the Academy of Medicine of July 13, M. Martel, head of the Sanitary Veterinary Service of the Department of the Seine, made an interesting report on the conditions under which milk for children is produced. Milk really fit for children's use is almost impossible to find in Paris. There are two serious defects almost universally found in the dairies, namely, the lack of desirable cleanliness and defective feeding of the cows. Out of 911 dairies, keeping 13,565 cows, which furnish milk in Paris and in the commune of the Department of the Seine, 518 dairies, or 56.85 per cent. feed distillery refuse because of its cheapness. M. Martel recently suggested at the dairy congress held at Budapest to forbid the application of the terms "pure milk," "hygienic milk," "milk for children" and other similar terms, to milk from animals fed on distillery waste.

Death of Professor Bondet

Dr. Bondet, former professor of clinical medicine at the College of Lyons, national associate of the Academy of Medicine of Paris, has just died.

Fiftieth Anniversary of the Society of Anthropology

The Society of Anthropology has just celebrated in the great amphitheater of the College of Medicine, the fiftieth anniversary of its foundation. M. Bayet, director of higher education at the Ministry of Public Instruction, presided and a great number of delegates from France and foreign societies were present.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, July 21, 1909.

The Meningitis Epidemic in Austria

The recent outbreak of epidemic cerebrospinal meningitis in Europe is merely a belated sequel of the epidemic which since 1906 has been observed in Central Europe. According to the report of the board of health, in 1906, there were reported in Austria, among 27,000,000 inhabitants, 1,506 cases of this disease, all in the northeast; 853 persons died of it; in 1907 there were 813 cases, with 461 deaths, and next year only 504 cases, with 263 fatalities; altogether, 2,823 cases, with 1,577 deaths (56 per cent.). It is remarkable that while the board of health was successful in almost suppressing the outbreak, the rate of mortality remained practically unchanged. All prophylactic measures adopted in other countries, besides the use of pyocyanase, were employed here. For about three months the board of health has recommended mainly intraspinal injections of the meningococcus serum. Since its use the mortality has been reduced to 30 per cent. Special care has been taken to discover and isolate the apparently healthy "germ-carriers," the actual propagators of the disease. The teachers of public schools have been especially warned of the nature of the disease and the prophylactic measures required. As the Weichselbaum diplococcus is not capable of living a long time outside of the human body, the conclusions of the report with regard to disinfection are that disinfective measures should be concentrated on the personal linen and bedclothes of the patient, the rooms and furniture being incapable of transmitting the disease.

Insuring Pure Food for the People

The adulteration of bread, of sausages and flour has been nearly put down in Vienna by the strict supervision and heavy penalties imposed lately for each offense. In order to insure the sale of pure food, a special class for the inspectors of markets and shops and their assistants has been opened in the imperial laboratory in this city. The class will last two months, will be repeated in the winter, and will comprise theoretical and practical instruction; it will be open also to medical men. Milk, with its natural and artificial changes, adulteration and conservation, is one of the most important subjects. Natural butter and its substitutes margarin, cocoanut fat, lard and cheese will be obtained from the cattle market and examined under the supervision of the professor. The other articles coming within this class are eggs, preserved and canned vegetables, meat and fruit, wine, beer and all spirits. These articles, obtained in the open market, will be compared with standard articles of the same kind, prepared in the imperial laboratory itself, where abundant facilities for all products are present, including a farm, a vineyard and a brewery on a very small scale. The results thus obtained, together with the name of the selling firm, will be published, if, on two occasions after warning, any adulteration be found still present.

Pharmacology

Oxyburserazin

Oxyburserazin is the name given by its discoverer, W. v. Bolton (*Ztschr. f. Elektrochemie*, xiv, p. 211) to a substance to which remarkable properties are attributed. While the observations have been made by a reputable—though non-medical—scientific worker, it will be interesting to learn whether the properties assigned to this substance are confirmed by others. There is room for the suspicion, at least, that the foundations are being laid, unconsciously it may be, for the development of a nostrum. The danger of preparing the alleged substance will necessarily confine its manufacture to a few, while the assumed pharmacologic virtues open a field for therapeutic claims that can be bounded only by the imagination of the promoter and the credulity of the physician.

Burserazin is said to be that part of the resin of myrrh in which its antiseptic virtues reside and it constitutes from 1.5 to 2 per cent. of the resin. When burserazin is oxidized with hydrogen peroxid, oxyburserazin, a volatile body of a peculiar odor and a pure white color becoming yellow in a few weeks, is said to be produced which is claimed to possess the special properties of the original substance in an increased degree. According to v. Bolton, much care must be taken in preparing oxyburserazin for fear of explosion. Both substances are said to be radioactive, emitting β and γ rays, which have not the power of penetrating metallic foil. After nine months oxyburserazin is converted into a different substance which is not radioactive. It is claimed that if a watery solution of oxyburserazin is mixed with diluted fresh hog's blood and the mixture warmed to body temperature, brown flocculi separate from the blood. These when collected, washed and dried in the air are said to form an elastic transparent membrane soluble in water, which is probably a peculiar form of coagulated albumin. If a piece of this membrane is placed over a small skin wound it is said to combine with the skin forming a protective covering which will not wash off. Oxyburserazin mixed with blood in the absence of air forms no membrane, and it is claimed to be non-toxic when injected subcutaneously.

It is suggested that it may be useful in case of internal wounded surfaces, such as tuberculous lesions, as the blood charged with this substance, by continually bathing a surface exposed to the air would form a protective coating of value in the healing of such wounds. Herpetic eruptions, it is claimed, have been benefited and completely removed by washing with a solution of oxyburserazin. It is suggested that the medicinal properties of oxyburserazin may depend on its radioactive properties.

At the risk of appearing ultra-conservative, the medical profession can afford to wait for confirmation by reliable authority before committing itself too enthusiastically to the idea of applying an automatic plaster to internal wounds by way of the blood.

Correspondence

A Postmortem After a Malpractice Suit

To the Editor:—In the proceedings of the American Academy of Medicine, as published in THE JOURNAL, July 17, Dr. James A. Spalding, of Portland, Me., reported the case of a malpractice suit in which subsequently a postmortem examination was made, and he asks for information if other such postmortems have been held.

Some thirty years ago a suit for malpractice was brought in Belmont county, O., the charge being that the attending physician had failed to recognize and reduce a dislocation of the hip. The plaintiff, some months after the accident, came to Columbus and was examined by two of the most prominent surgeons of this city who made a diagnosis of dislocation and attempted to reduce it by pulleys (this being the only time I have ever seen pulleys used). I was the "cub" and gave the anesthetic, but made no examination of the case. Their efforts being futile, they reached the conclusion that the acetabulum had become filled in the interval and that reduction was impossible. If I remember correctly a verdict of $800 was rendered against the attending physician.

Some years later a postmortem examination showed that there had been a fracture of the neck of the femur, and the head of the femur had never left the acetabulum. The unfortunate attending physician had contended all the while that it was a case of fracture, but the verdict had gone against him, and his only satisfaction was in local vindication. The Columbus surgeons had passed to their reward before the postmortem.

J. F. BALDWIN, M.D., Columbus, O.

A Boosting Club

To the Editor:—Why not a "Booster Club" or "Praise Your Brother Club" in the American Medical Association, with no dues or other requirements except that each member pledge himself never to speak unkindly or in criticism of a brother physician to the laity except that physician be also present. Let us renew our vows and wear buttons to show that we mean to keep them.

If such a condition could be brought about we would be held in much greater esteem by our patients and neighbors. Whenever a physician is condemned, maligned or criticized by another physician, the ill-will engendered in the minds of the laity is not against the one physician but the class—individuals are forgotten and the profession is remembered as a whole. If I tell everyone I meet that Doctor Pill is a rank physician: knows nothing of medicine and will stoop to any mean practice, the laity soon forget that Doctor Pill is a "poor doctor" and retain the impression that we are all "poor doctors" ready to stoop to anything.

Let's stop it; raise the standard. Can we get together at St. Louis and organize a club?

Yours for "no knocking."

W. T. WOOTTON, M.D., Hot Springs, Ark.

An Island Without Flies

To the Editor:—The handbook prepared for the U. S. Army of Invasion of Porto Rico, stated that the house fly did not exist on the island, but that a fly called *vomitorum* (*Mus vomitorum*) did exist there, and if one fly was accidentally swallowed, it caused immediate vomiting. After two years spent on the island, the writer states this experience: The house fly accompanied the American Army to the island, and was as numerous in the camps there as in the camps in the United States in the summer of 1898. When the Army left the island the flies disappeared. There were almost no flies to be seen on the island in the summers of 1899 and 1900. I never saw the *Mus vomitorum*, nor heard any one on the island mention them. It is also of interest that the flies which so much annoy horses and cattle by biting them, do not exist in Porto Rico. I never saw one on either horse or cow, but whether they were present with the American horses I do not know.

Now, why do flies not exist in Porto Rico? There is some condition there not conducive to their health. It is true that other insects are scarce on the island. This seems true of all except certain species commonly domesticated and living in homes of people. Bird life and wild mammals are very rare. Reptiles do not exist on the island. Would it not be well for the Rockefeller Institute or some similar organization to investigate the cause of this sparseness of insect life in Porto Rico?

GEORGE G. GROFF,
Late Major and Brigade Surgeon, U. S. V.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

BOOKS ON PARASITOLOGY AND BACTERIOLOGY

To the Editor:—Kindly give a list of authoritative works in English on general parasitology and bacteriology (both pathogenic and non-pathogenic bacteria) and give the names of publishers. Also tell me what are the best works on immunity and serum therapy. R. F. L., North Carolina.

ANSWER.—There is no work in English covering the subjects mentioned that can be considered complete. Probably the work in English which considers both pathogenic and non-pathogenic forms from the broadest standpoint is the "Text-book of General Bacteriology," by E. O. Jordan (W. B. Saunders Co.). Other reliable books which treat of the pathogenic forms are Muir and Ritchie, "Manual of Bacteriology," (Macmillan Co.), and Park's "Pathogenic Bacteria and Protozoa," (Lea & Febiger).

Several books in English on immunity and serum therapy give the general principles well. Among them are "Infection, Immunity and Serum Therapy," by H. T. Ricketts, (American Medical Association Press); also Ehrlich's collected studies in "Immunity," translated by Bolduan, (John Wiley & Sons), and Binnie's translation of Metchnikoff's "Immunity in Infective Diseases," (Macmillan Co.).

UNTOWARD EFFECTS OF CHRYSAROBIN

To the Editor:—Please inform me if the local use of chrysarobin is usually followed by coloring of the skin in other parts of the body. I recently prescribed an ointment containing chrysarobin and salicylic acid for psoriasis of the arms and legs of a robust adult; the ointment to be applied with a brush. After three applications the patient returned showing a deep discoloration of the finger nails and the skin about the eyes. The coloring of the nails seemed to be throughout the nail substance, as scraping them deeply would not remove it, and the patient is sure that at no time did he get any of the ointment on the nails. I have used chrysarobin very frequently, but have never seen its use followed by such pigmentation, nor do I find any mention made of the discoloration occurring at so great distances from its application. W. C. G., Michigan.

ANSWER.—The absorption of chrysarobin from the skin has been rarely observed, but there are a number of observations which show that it may be absorbed and produce constitutional effects sometimes of a severe nature. The effects are of three kinds: (1) Chrysarobin dermatitis, in which the skin is colored brown, and chrysarobin may be found in the pigment; (2) chrysarobin keratitis, in which the deposit begins in the deeper layers of the cornea and produces an inflammation in the cornea and sclera which may extend to the conjunctiva; (3) chrysarobin nephritis, caused by the excretion of the drug through the kidney. Chrysarobin is changed to a large extent on absorption to chrysophanic acid, which does not appear to be irritating. Chrysarobin itself may, however, be found in the urine along with albumin and casts.

M. Winkler, *Cor.-Bl. f. schweiz. Aerzte*, 1907, xxxvii, p. 561-567) investigated the absorption and excretion of chrysarobin when applied to the skin as is usual in psoriasis and came to the conclusion that as it is ordinarily used the danger from absorption of chrysarobin is very slight. He did, however, find one case of chrysarobin conjunctivitis in which there was a slight excretion of chrysophanic acid in the urine with slight albuminuria. Linde (*Deutsch. med. Wchnschr.*, 1898) reports a case of severe nephritis accompanied by keratitis following the application of chrysarobin. R. Volk (*Wien. klin. Wchnschr.*, 1906, xix, p. 1194) reports a case of chrysarobin dermatitis and severe nephritis following the application of chrysarobin for an undetermined skin disease. Chrysophanic acid was found in the urine. Krause (*Ztschr. f. Augenhl.*, 1906, xv, pp. 233-238) reports three cases of corneal affection due to chrysarobin. The affection of the cornea appeared to be primary and due to the absorption of the drug. C. J. Kipp (THE JOURNAL A. M. A., May 18, 1907, xlviii, p. 1678) reports a case of kerato-conjunctivitis from application to the nose.

It is advised by many to be cautious about applying chrysarobin to the scalp for fear of producing conjunctivitis. H. C. Baum (THE JOURNAL A. M. A., June 23, 1906, xlvi, p. 1811) refers to a case in which blindness resulted from application to the nose. J. C. Fox (THE JOURNAL A. M. A., June 23, 1906, xlvi, p. 1911) states that the remedy discolors the nails and hair.

The Public Service

Medical Department of the Army

Memorandum of changes for the week ended July 31, 1909:

McDiarmid, Norman L., 1st lieut., ordered to Jefferson Barracks, Mo., for temporary duty.

Bruns, Earl H., capt., granted sick leave of absence for six months.

Brown, Orville G., capt., ordered to return from Fort Mackenzie, Wyo., to his proper station, Fort Robinson, Nebraska.

Ashburn, Percy M., major, relieved from duty with the commission to Liberia, and ordered to San Francisco for duty at the Army General Hospital.

Huber, Edward G., 1st lieut., granted leave of absence for one month, about Sept. 1.

Reynolds, Frederick P., major, granted leave of absence for ten days.

Davis, William R., capt., relieved from duty at Fort Mason, Cal., and as attending surgeon, San Francisco; will proceed to Fort Porter, N. Y., for duty.

Bingham, Ernest G., capt., when relieved at Fort Porter, N. Y., will proceed to Fort Mason, Cal., for duty as surgeon, and as attending surgeon, San Francisco.

Reed, Howard A., 1st lieut., retired from active service as a captain, to date from June 30, 1909, for physical disability.

Morris, Samuel J., capt., ordered to Fort Jay, N. Y., for temporary duty.

Crosby, William D., lieut.-col., granted leave of absence for one month, seven days.

Owen, Leartus J., capt., ordered to inspect Company A, Hospital Corps, Michigan National Guard, at Ludington, Mich., Aug. 9 to 18; after duty at that camp to return to Camp Perry, Ohio.

Reno, William W., capt., relieved from duty on the transport "Kilpatrick;" will proceed to Fort McKinley, Maine, for duty.

Yost, John D., capt., retired from active service as a major, to date from March 13, 1909, for physical disability.

Ashford, Mahlen, 1st lieut., granted leave of absence for fourteen days.

Miller, Reuben B., capt., granted leave of absence for three months.

Myers, William H., 1st lieut., M.R.C., granted leave of absence for three months, when relieved from duty in the Philippines Division, with permission to return to the United States via Europe.

Clayton, George R., 1st lieut., M.R.C., relieved from further duty in the Philippines Division, will proceed from San Francisco to Fort D. A. Russell, Wyo., for duty.

Bowman, Madison H., 1st lieut., M.R.C., relieved from duty at Fort McDowell, Cal., will proceed to Point Bonita, Cal., for temporary duty, and then to the Presidio of Monterey, Cal., for duty.

Hughes, Leonard S., 1st lieut., M.R.C., relieved from duty at Fort McDowell, Cal., and temporary duty at Point Bonita, Cal.; will proceed to Fort Lawton, Wash., for duty.

Tyler, George T., 1st lieut., M.R.C., honorably discharged from the service, his services being no longer required.

Jackson, T. W., 1st lieut., M.R.C., ordered to Washington Barracks, D. C., for temporary duty.

Hasseltine, H. E., 1st lieut., M.R.C., honorably discharged from the service, his services being no longer required.

Medical Corps of the Navy

Changes for the week ended July 31, 1909:

White, E. C., P. A. surgeon, detached from the Naval Torpedo Station, Newport, R. I., and ordered to the Naval Hospital, Newport, R. I.

Clark, G. F., asst.-surgeon, detached from the Naval Hospital, Newport, R. I., and ordered to duty with the *Solace*.

Dixon, W. S., medical director, retired, detached from the Naval Dispensary, Washington, D. C., and ordered home.

Mullin, J. J. A., Johnson, J. T., acting asst.-surgeons, appointed acting assistant surgeons from July 24.

Bodman, S. S., surgeon, detached from the Naval Rendezvous, Indianapolis, and ordered to the Naval Rendezvous, Boston.

Diehl, O., medical inspector, ordered to duty as fleet surgeon of the third squadron of the Pacific fleet.

Public Health and Marine-Hospital Service

List of changes for the fourteen days ended July 28, 1909:

Glennan, A. H., asst. surgeon-general, granted 28 days' leave of absence from July 20, 1909.

Cofer, L. E., asst. surgeon-general, directed to proceed to Reedy Island Quarantine Station on special temporary duty.

Austin, H. W., surgeon, on being relieved by Surgeon James M. Gassaway, directed to proceed to Stapleton, N. Y., and assume command.

Gassaway, James M., surgeon, on being relieved by Surgeon H. R. Carter, directed to proceed to San Francisco and assume command.

Carter, H. R., surgeon, on being relieved from duty with the Isthmian Canal Commission, about Aug. 1, 1909, directed to proceed to Philadelphia and assume charge.

McClintic, T. B., P. A. surgeon, directed to proceed to Norfolk, Va., on special temporary duty.

Trotter, P. E., P. A. surgeon, granted 15 days' leave of absence from July 21, 1909.

Sweet, Ernest A., P. A. surgeon, granted 7 days' leave of absence from July 15, 1909, under paragraph 191, Service Regulations.

Porter, Joseph Y., quarantine inspector, directed to inspect Florida Quarantine Station from time to time during present season.

Foster, J. P. C., acting asst. surgeon, granted 26 days' leave of absence from July 17, 1909.

O'Reilly, W. J., acting asst. surgeon, granted 10 days' leave of absence from July 27, 1909.

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from July 22, 1909, on account of sickness.

Williams, L. L., surgeon, granted 1 month's leave of absence from Aug. 1, 1909.

Wertenbaker, C. P., surgeon, directed to proceed to Cape Charles Quarantine Station on special temporary duty.

Young, G. B., surgeon, directed to proceed to Dubuque, Iowa, and La Crosse, Wis., special temporary duty.

Oakley, J. H., surgeon, directed to proceed to Seattle, Wash., on special temporary duty.

Lavinder, C. H., P. A. surgeon, granted 7 days' leave of absence from July 25, 1909.

Robinson, D. E., P. A. surgeon, granted 1 month's leave of absence from Aug. 8, 1909.

Ramus, Carl, P. A. surgeon, granted 3 days' leave of absence from July 19, 1909, on account of sickness.

Holt, J. M., P. A. surgeon, leave of absence granted July 2, 1909, for 1 month from July 26, 1909, amended to read 3 days from July 25, 1909.

Herring, R. A., asst.-surgeon, on the arrival of Assistant Surgeon Richard H. Lyon, directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Wood, Charles E., asst.-surgeon, on the arrival of Assistant Surgeon J. R. Ridlon, relieved from duty on the Revenue Cutter *Seneca*, and directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Ridlon, J. R., asst.-surgeon, relieved from duty at New Orleans and directed to report to the commanding officer of the Revenue Cutter *Seneca*.

Leake, James P., asst.-surgeon, directed to proceed to Chicago and report to the medical officer in command for duty and assignment to quarters.

Lyon, Richard H., asst.-surgeon, directed to proceed to Reedy Island Quarantine Station and report to the medical officer in command for duty and assignment to quarters.

Kolb, Lawrence, asst.-surgeon, directed to report to the medical officer in command at Baltimore for duty and assignment to quarters.

Blanchard, J. F., acting asst.-surgeon, granted 8 days' leave of absence from July 17, 1909.

Frary, T. C., acting asst.-surgeon, granted 7 days' leave of absence from Aug. 6, 1909.

Reimer, H. B. C., acting asst.-surgeon, granted 7 days' leave of absence from July 20, 1909, under paragraph 210, Service Regulations.

Tappan, J. W., acting asst.-surgeon, granted 30 days' leave of absence from August 2, 1909.

APPOINTMENTS

Dr. Bruno L. Schuster appointed an acting assistant surgeon for duty at Port Huron, Mich.

Dr. Hermon E. Hasseltine commissioned an assistant surgeon in the Public Health and Marine-Hospital Service.

Dr. James P. Leake commissioned an assistant surgeon in the Public Health and Marine-Hospital Service.

Dr. Richard H. Lyon commissioned an assistant surgeon in the Public Health and Marine-Hospital Service.

Dr. Lawrence Kolb commissioned an assistant surgeon in the Public Health and Marine-Hospital Service.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended July 30, 1909.

SMALLPOX—UNITED STATES

Indiana: Muncie, July 3-10, 3 cases.
Minnesota: Duluth, July 9-16, 4 cases.
Missouri: St. Louis, July 10-17, 1 case.
Montana: Butte, July 8-15, 4 cases.
Tennessee: Knoxville, July 10-17, 2 cases.
Texas: San Antonio, July 10-17, 1 case.
Wisconsin: Appleton, July 10-17, 4 cases.

SMALLPOX—INSULAR

Philippine Islands: Manila, May 28-June 5, 1 case, 1 death.

SMALLPOX—FOREIGN

Algeria: Bona, June 1-30, 7 deaths.
Argentina: Buenos Aires, April 1-30, 7 deaths.
Brazil: Bahia, June 4-11, 6 cases, 2 deaths; Sao Paulo, June 6-13, 3 deaths.
China: Hankow, June 5-26, present; Shanghai, 2 deaths.
France: Marseille, June 1-30, 5 deaths.
India: Bombay, June 15-22, 7 deaths; Calcutta, June 5-12, 18 deaths; Rangoon, 4 deaths.
Java: Batavia, May 29-June 5, 2 cases.
Italy: General, June 27-July 4, 16 cases; Naples, 32 cases, 4 deaths.
Russia: Odessa, June 19-July 3, 5 cases; St. Petersburg, June 12-19, 27 cases, 8 deaths; Warsaw, May 22-29, 2 deaths.
Spain: Barcelona, June 28-July 5, 5 deaths; Madrid, June 1-30, 84 deaths; Valencia, June 19-26, 6 cases.
Turkey: Bagdad, May 8-29, present; Bassorah, June 19-26, present.

YELLOW FEVER

Brazil: Bahia, June 4-11, 5 cases, 3 deaths; Para, June 19-26, 4 cases, 4 deaths.

CHOLERA—INSULAR

Philippine Islands: Provinces, May 29-June 5, 18 cases, 13 deaths.

CHOLERA—FOREIGN

Germany: Konigsberg, July 21, 1 death.
India: Bombay, June 15-22, 21 deaths; Calcutta, June 5-12, 40 deaths.
Russia: General, July 1-8, 710 cases, 272 deaths; Riga, July 21, 13 deaths; St. Petersburg, 589 cases, 238 deaths.
Straits Settlements: Singapore, May 29-June 5, 3 deaths.

PLAGUE

Brazil: Bahia, June 4-11, 1 case, 1 death.
Chile: Antofagasta, June 14, 4 cases, in lazaretto; Iquique, June 16, 7 cases, in lazaretto.
China: Amoy, June 5-12, 73 deaths; Swatow vicinity, to July 1, 2,400 cases.
Egypt: General, July 1, 14 cases, 8 deaths; Port Said, July 2-7, 3 cases, 1 death.

India: General, June 5-12, 1,045 cases, 907 deaths; Bombay, June 15-22, 26 deaths; Calcutta, June 5-12, 81 deaths; Rangoon, 24 deaths.
Japan: Kobe, June 12-26, 2 cases, 2 deaths; Yokahama, June 19-26, 2 cases; Tokyo, 1 case.
Turkey: Bagdad, May 8-29, 6 cases.
Venezuela: Caracas, to July 11, 17 cases, 6 deaths.
Zanzibar: Zanzibar, July 26, 1 case.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

A Movement for State and National Unity

The July number of the *National Civic Federation Review* contains a leading article under the above head which should be read by all interested in uniform legislation for the regulation of public health. The National Civic Federation has issued a call for a national conference to consider the entire subject of uniform legislation by the states, to be held in Washington, Jan. 5-7, 1910. President Taft has accepted the invitation to deliver the opening address. After presenting the opinions of a large number of eminent men, among them Senator Elihu Root, Samuel Gompers, President Amasa M. Eaton, of the Commissioners of Uniform State Laws, President George W. Kirchwey, of the Association of American Law Schools, and others, the *Review* discusses the need of uniform laws and the particular lines in which such laws are desirable, considering in particular the desirability of uniform laws on forestry, water power, irrigation, railroad management, life insurance, administration, regulation of interstate commerce, employers' liability and labor activities. The writer then continues:

The medical as well as the legal world appreciates the importance of uniform state laws for the immediate registration and preservation of vital statistics. The American Medical Association has prepared a draft of a model law to provide for the immediate registration of all births and deaths. This bill is being urged in all of the state legislatures. It was examined and approved by the Division of Vital Statistics of the United States Bureau of the Census, by the Section on Hygiene and Sanitary Science and the House of Delegates of the American Medical Association, the American Public Health Association and the conference of Commissioners on Uniform State Laws. The Census Bureau has issued a pamphlet on the legal importance of the registration of births and deaths. It is published in a bulletin of the department and is also issued by the American Medical Association. During the present year, legislation for this purpose has been enacted in Delaware, Missouri, North Carolina, Arizona and Tennessee.

Dr. Cressy L. Wilbur, chief statistician of the Census Bureau, in a recent letter says: "The interest of labor organizations is especially desirable to secure registration of births, because birth certificates are a necessary part of the enforcement of child labor laws." The Hon. Vespasian Warner, United States commissioner of pensions in 1907, wrote to the Census Bureau urging the importance to the government of the registration of vital statistics. As in the administration of the pension laws, it is necessary to have absolute proof of the date of the birth of minor children entitled to a pension, of the marriage of the widows of soldiers who apply for pension, as well as of the death of the soldier. The Pension Commissioner urged that the proper registration of vital statistics would not only be a saving to the government in time and money, but would tend to insure to the rightful claimant the receiving of the bounty to which he or she is entitled under the law and prevent impostors from obtaining that to which they have no title.

The *Review* also considers the importance of uniform health regulations for the prevention of disease, uniform pure food and drug laws, etc. No reference is made to the desirability of uniform laws for the regulation of the practice of medicine which really lies at the foundation of the proper regulation of health, the importance of this subject evidently not having been brought to the attention of the writer.

Of particular interest are the suggestions regarding the best methods of procedure, corresponding closely to the suggestions made along this line in this department of THE JOURNAL as well as in the *Bulletin* for May 15, 1907. Discussing the haphazard manner in which state legislation has been enacted, the writer says: "General impressions instead of exact and systematic statistics will, for a long time to come, be the basis on which the policy of our civil legislation will be built, and there is no promise of any radical advance of jurisprudence in this respect. With regard to revenue and police legislation, however, the outlook is much more hopeful. A considerable amount of information is even now available in the official reports of the authorities charged with the administrations of the various acts which naturally deal to a considerable extent with the administrative and judicial aspects of legislation. With the multiplication of controlling and regulating boards, more and more light will be thrown on the operation of principles of constitutional and administrative law. All this material ought to be collected and digested in the same manner as is now done in judicial decisions and the result should be the construction of a body of principles of legislation to supplement the existing body of principles of law. . . . We look on the collection and classification of this data as merely a common sense business operation. . . . It seems merely common sense that we should get all possible knowledge relating to that statute for the use of our legislators. In this way, legislation cannot help being bettered; in this way, the dearly bought experience of one state is used for the betterment of conditions in another state; in this way, the best there is can be culled out from the statutes throughout the country and used for the benefit of the people."

The importance and value of such a conference as that contemplated by the National Civic Federation can not be overestimated. The Committee on Legislation of the American Medical Association has been invited to attend the conference and to take part in its deliberations. Certainly such an important work should not be undertaken without representatives of the organized medical profession being heard on the most important subject of uniform laws for the regulation of the public health. This movement on the part of the National Civic Federation is exactly similar to the work which has been advocated by the American Medical Association in a limited field. The careful study which is being given to these problems by a large number of competent and unselfish workers gives a gratifying promise of better conditions in the future.

Medical Education and State Boards of Registration

Stolen Diploma

State examining boards are requested to be on the lookout for a diploma said to have been stolen from the office of Dr. James F. York of Kenova, West Virginia. The diploma was issued to Dr. York by the Eclectic Medical Institute of Cincinnati, Ohio, June 4, 1895.

Utah July Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, July 6-7, 1909. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 12, all of whom passed. One candidate was licensed through reciprocity. The following colleges were represented:

PASSED

College.	Year Grad.
Denver and Gross College of Medicine	(1908)
Northwestern University Medical School	(6, 1909)
University of Michigan	(1909)
St. Louis College of Physicians and Surgeons	(1909)
Medical College of Ohio	(1909)
Jefferson Medical College	(1908) (1909)

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1906)	Wisconsin

Book Notices

A SYSTEM OF SYPHILIS. In Six Volumes. Vol. II. Edited by D'Arcy Power, M.B., F.R.C.S., and J. Keogh Murphy, M.D., M.C., F.R.C.S., with an introduction by Jonathan Hutchinson, F.R.S. Cloth. Pp. 387, with illustrations. Price, $13.50. New York: Oxford University Press, 1908.

We reviewed recently in these pages Volume I of this system and praised it highly. Volume II, now under consideration, contains "The Surgery of Syphilis," by D'Arcy Power, of St. Bartholomew's Hospital; "The Treatment of Syphilis," and an article on syphilis in the Uganda Protectorate, both by F. J. Lambkin, of the Army Medical College, and "Syphilis in Obstetrics," by William J. Gow, of St. Mary's Hospital. In this very collection of articles the work shows some lack of the system promised in the name of the series. In the prospectus inserted in the first volume, the authors for Volume II were given as D'Arcy Power and W. J. Gow; in Volume II the article on syphilis in Uganda is inserted as a separate monograph, but is given in the table of contents as a chapter under the treatment of syphilis. Reference is made to these departures from definite system here, because they are evidences of the lack of editorial supervision to which attention must be repeatedly called in reviewing this volume.

Power in "The Surgery of Syphilis" first gives a chapter of thirteen pages to a historical account of syphilis, going over the same ground which Bloch had covered satisfactorily in Volume I. He then takes up in successive chapters the manifestations of syphilis in the various structures where its presence may properly be considered to constitute surgical syphilis: the bones, joints, muscles, tendons and bursæ, teeth, mouth and tongue, rectum, urethra and prostate, testicles, breast (why plural for testicles and singular for breast, we do not know), and the thyroid gland. To these chapters are given 155 pages, and the subjects are well treated. He then gives four chapters—82 pages—to the treatment of syphilis, with nothing in it that is not a part of the treatment of syphilis in general and that is not properly a part of the next monograph by Lambkin. Thus we have in the first 250 pages, 95 precious pages that are a repetition of what is given or is properly to be expected elsewhere. Emphasis is laid on this because it indicates hopeless carelessness in editing. An essential condition of collaboration in a medical publication is careful editorial supervision in order that the same ground shall not be traversed again and again. Unless there be superlative merit in the contributions, this defect will damage a "system" beyond remedy, and these contributions are not superlative.

Lambkin's monograph, while it has the caption "The Treatment of Syphilis," and presumably is to serve as covering the subject for the system, is virtually an article on the treatment of syphilis by means of intramuscular injections of metallic mercury and (occasionally) of calomel. Short shrift is made of everything else; the substance of the contribution is an advocacy of the use of two insoluble preparations of mercury in the treatment of syphilis. These are the "treatment of syphilis." It goes without saying that he describes his treatment in detail, and, in so far, his article is useful, but as a contribution on the treatment of syphilis it is made unsafe by its narrowness. It is unscientific, too, because it accepts personal impressions as facts and is unrestrained in statement: ". . . it (the intramuscular method) is undoubtedly the most popular method in Europe and America" (!!) (p. 281;) ". . . it is certain that by the intramuscular method the amount of mercury introduced can be made mathematically correct. Absorption of mercury in a definite manner is ensured by this method" (p. 282); "with regard to the seventh advantage, i. e., less chance of being followed by stomatitis and salivation than when given otherwise, I came to this conclusion many years ago, and time has only confirmed me in my opinion" (p. 283). (This reminds one of Hashimura Togo's dictum, "I know, because I am aware"). These examples selected from three successive pages could be continued to the limit of our space. All these statements of course are unestablished assumptions. An extreme illustration of the use of assumption as an established fact—when almost all the world thinks differently—is Lambkin's reason for preferring the insoluble injection method, namely, its convenience and the ease with which the patient can be controlled: "This [uncertainty about the patient's taking his medicine], to my mind, is the chief objection to the ingestion method."

The magnificent space of five pages is given to the use of potassium iodid in syphilis. Other iodids beside the iodid of potassium are not referred to; the organic preparations of iodin are not even mentioned to be condemned. Twenty-six lines (separated in two places) are given to the eruptions produced by the ingestion of the iodids; and five pages to the chapter on local treatment! Such chapters under the general subject of treatment in a work that pretends to be an encyclopedia of syphilis, are of course entitled to no serious consideration. They are less by far than standard text-books give to the subjects. Nowhere is there any systematic consideration of the general treatment of syphilis in connection with the specific treatment. Aside from a few brief references under "conclusions," there is nothing to indicate that there is any reason to consider the syphilitic as an individual patient.

Lambkin is singularly careless at time in his use of words. "Iodid of potash" is a favorite term. On page 315 it is said that the patient should be told to drink freely of "potash water"—whatever that is. Our old English friend, "syphilitic psoriasis"—which belongs to the "laudable pus" era of medicine—bobs up occasionally, and on page 319 "a form of psoriasis of ulcerating, and still more rarely of a sloughing, variety sometimes occurs." A more hopeless confusion in the use of the word psoriasis, to say nothing of a "form" of a "variety," could hardly be imagined. On page 315 he speaks of "hereditary . . . neurasthenia," which we suppose is the latinized equivalent of our vernacular expression, "born tired." These things are mentioned only because they indicate an unpardonable carelessness both on the part of the author and of the editor. One serious mistake occurs on page 285: the following prescription is given: "Hydrarg. perchloridi grs. 32. Ammon. chloridi grs. 12. Aquam. (*sic*) oz. 1. Dose, minims 10 for an injection." Ten minims of that solution contains two-thirds of a grain of corrosive sublimate, about four times the maximum hypodermic dose.

Colonel Lambkin is, we doubt not, an able clinician, but his article does not measure up to the standard that is to be expected of him. It does not at all represent the present state of our knowledge of the treatment of syphilis. It is purely a personal article, and utterly fails to emphasize, or even to mention, important facts that must be made a part of any satisfactory consideration of the treatment of syphilis.

The contribution by Lambkin on syphilis in the Uganda Protectorate is a brief and interesting narrative, but furnishes no new or enlightening facts on syphilis to warrant its insertion in an encyclopedia of syphilis. Its place would be properly the *British Medical Journal* or the *Lancet*.

Dr. Gow gives, or has been allotted, eighteen pages for "Syphilis in Obstetrics." In this he briefly considers the effects of syphilis on pregnancy, of pregnancy on syphilis, of syphilis on the embryo, in a few pages gives the morbid anatomy of syphilis of the placenta and fetus, and ends with a page and a half on treatment of syphilis during pregnancy. The article is satisfactory within its limits, but is, of course, merely a sketch. It has not space to consider any topic comprehensively, brings forward nothing original, and is such a contribution as any competent man could write on short notice, or as could be compiled on consultation with a few text-books.

Taken altogether, this volume is a disappointment. Except Lambkin's contributions, which have at least the quality of individuality, the articles are simply hack work, and they have the great defect, in a work that professes to be encyclopedic, of being incomplete. One who would consult any of them, expecting, as he justly should, to find the last word on the subject, would find nothing not in his text-books. One gets the impression that carelessness and a lack of feeling of responsibility in the preparation of this volume have resulted in the waste of a great opportunity.

WRITING THE SHORT STORY. By J. Berg Esenwein, A.M., Lit.D., Editor of Lippincott's Monthly Magazine. Cloth. Pp. 441. Price, $1.25. New York: Hinds, Noble & Eldredge.

This book should be popular among physicians so many of whom devote their leisure hours to story-writing. The book begins with a historical review of the rise of the short story,

calling attention to the fact that the story-writer is the lineal descendant of the story-teller, and briefly tracing the evolution of the written story down through the ages. In Part 1 the nature of the modern short story is discussed at length. In Part 2 the structure is considered. Part 3 deals with preparation for authorship. Part 4 discusses the manuscript and its market. Part 5 is composed of seven appendices. As editor of a popular magazine the writer has handled thousands of manuscripts and his advice is correspondingly valuable.

AN INTRODUCTION TO THE SCIENCE OF RADIO-ACTIVITY. By Charles W. Rafferty. Cloth. Pp. 208, with illustrations. Price, $1.25. New York: Longmans, Green & Co., 1909.

This is an elementary treatise on the physics of radioactivity. It begins with an introductory chapter on the discovery and development of our knowledge of radioactivity. The work proper is divided into three parts. Part I presents in several chapters a description of the radioactive elements and of the phenomena of radioactivity; Part II is an exposition of the theories which explain the phenomena of radioactivity; and Part III considers the practical application of radioactive energy in physical experiments. This plan lends itself to a clear and very interesting development of the subject. The work is frankly offered as an elementary treatise, but it will be found by the student to be a full and satisfactory work. It is hard to imagine a more fascinating chapter in science than that dealing with the physics of radioactivity. It has not overthrown our previous theories of matter and energy—rather it has confirmed them—but it has enormously enlarged our knowledge of atomic structure and it has given rise to some of the most brilliant conceptions in physics. The subject therefore appeals strongly to any one who wishes to follow the development of scientific knowledge and it has the additional claim of marvelous interest. The book before us is an excellent popular statement of the subject. It is lucidly written; it is not overtechnical; and it fully preserves the inherent interest of the subject.

ATHLETIC GAMES IN THE EDUCATION OF WOMEN. By Gertrude Dudley, Director of Women's Department of Physical Education, University of Chicago, and Frances A. Kellor, Author of "Experimental Sociology." Cloth. Pp. 268. Price, $1.25. New York: Henry Holt & Co., 1909.

The authors state in the preface that they have attempted no study or discussion of gymnastics or sports, for there are already many volumes dealing with these subjects. Furthermore, sports are individual; their purpose is primarily recreative and they do not depend on cooperation. On the other hand, athletic games are social in their nature and may be used for both recreation and entertainment. The authors also state that while they have emphasized athletics as a training for citizens and as a part of general education, they have not underestimated their physical value.

The book is divided into three parts: Part 1 takes up the value of athletic games under the heads of "Citizenship and Social Education," "Educational Value of Athletics," "Instructors—Their Responsibility and Training." Under the heading of "Present Conditions," Part 2 takes up "Athletics in Secondary Schools," "Athletics in Universities and Colleges," "Athletics in Political and Social Organizations," and "Competitive and Public Games." Part 3, under the heading of "Methods of Instruction," takes up "General Training and Contests," "Basket-Ball," "Indoor Baseball" and "Field Hockey." The authors emphasize the educational value of athletics, especially in teaching the players fair play and loyalty to each other, self-control and obedience to orders.

Taken altogether, the book is an interesting and valuable one; especially, it should be of much use to teachers of athletics not only in schools for girls, but in coeducational institutions and schools for boys.

PRIMARY STUDIES FOR NURSES. By Charlotte A. Aikens, Late Director of Sibley Memorial Hospital, Washington, D. C. Cloth. Pp. 435, with illustrations. Price, $1.75. Philadelphia: W. B. Saunders Co., 1909.

This book is intended for first-year nurses. It takes up the usual subjects of anatomy, physiology, hygiene, bacteriology, therapeutics, materia medica, dietetics, and invalid cookery. The recipes are good and the importance of properly cooked and daintily served food is emphasized. An appendix contains among other things a list of household antidotes.

Marriages

WILLIAM L. BURKE, M.D., Baltimore, to Miss Margaret Tighe, in Baltimore, recently.

JULIUS LEWIS AMSTER, M.D., to Miss Bertha R. Kopf, both of New York City, June 23.

FREDERICK S. ROBERTSON, M.D., Herndon, W. Va., to Miss Mabelle Williams at Baltimore, July 19.

BENJAMIN ERNEST EVERSMEYER, M.D., Muscatine, Iowa, to Miss Cora Wende of Keokuk, Iowa, July 22.

FRANK TALIAFERRO, M.D., Mazon, Ill., to Miss Dora Orinda Bennett of Carlisle, Ohio, at Chicago, July 21.

Deaths

Joseph Martin Emmert, M.D. Jefferson Medical College, Philadelphia, 1872; a member of the American Medical Association; formerly professor of medicine in the Iowa College of Physicians and Surgeons, Des Moines; local surgeon to the Rock Island System; formerly president of the Iowa State Board of Health, Iowa State Medical Society and Medical Society of the Missouri Valley, and first president of the Botna Valley Medical Society; a member of the State Board of Parole and Pardons since April, 1907, and since July 1 of that year, chairman of the board; a member of the state legislature for three terms and state senator in 1898; died suddenly at his home in Atlantic, July 15, from cerebral hemorrhage, aged 63. At a special meeting of the Iowa State Board of Health July 16, resolutions of regret and sympathy were adopted.

William H. H. Cobb, M.D. University of Pennsylvania, Philadelphia, 1861; once president of the Medical Society of the State of North Carolina; ex-president and honorary fellow of the Tri-State Medical Association of the Carolinas and Virginia; a member of the Southern Surgical and Gynecological Association; assistant surgeon of the Second North Carolina Infantry, C. S. A., throughout the Civil War; formerly a member of the State Board of Medical Examiners; local surgeon to the Atlantic Coast Line Railway; died at his home in Goldsboro, July 21, aged 68.

Edgar Holden, M.D. College of Physicians and Surgeons, New York City, 1861; surgeon in the United States Navy, and United States Volunteers during the Civil War; a member of the American Laryngological Association and president of the Association of Medical Directors of Life Insurance Companies; chief medical director of the Mutual Benefit Life Insurance Company, Newark, N. J.; consulting surgeon to St. Michael's and St. Barnabas hospitals; died suddenly at his summer home in Chatham, N. Y., July 18, from angina pectoris, aged 70.

James Evans, M.D. University of Pennsylvania, Philadelphia, 1861; of Florence, S. C.; a member and formerly president of the South Carolina Medical Association; a member of the Tri-State Medical Association of the Carolinas and Virginia, Southern Surgical and Gynecological Association and American Social Science Association; for 15 years secretary of the State Board of Health; a surgeon in the Confederate service during the Civil War; died in a sanitarium in Clifton Springs, N. Y., July 15, aged 82.

John B. Bolton, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878; president of the Board of Health of Eureka Springs, Ark.; a member of the Arkansas Medical Society, Tri-State Medical Society, Medical Society of the Missouri Valley, and the Western Association of Obstetricians and Gynecologists, chairman and councilor of the Ninth District Medical Society; died at his home July 12, from septicemia, following an operation for the removal of gallstones, aged 56.

Willis Percival King, M.D. Washington University, St. Louis, 1866; Bellevue Hospital Medical College, New York City, 1871; assistant chief surgeon of the Missouri Pacific Railway from 1885 to 1899; at one time a lecturer in the universities of Missouri and Kansas; secretary of the Missouri State Board of Health from 1894 to 1898; for several years a member of the staff of All Saints' Hospital, Kansas City, Mo.; died at his home in Kansas City, July 12, from uremia, aged 69.

David Clair Stearns Parkhill, M.D. Albany (N. Y.) Medical College, 1866; a member of the medical staff of St. James, and Mercy hospitals, Hornellsville, N. Y.; a member of the American Medical Association and president of the Erie Railway Surgeons' Association; local surgeon for the Erie Railroad; a member of the staff of Steuben Sanitarium; died at his home in Hornell, July 20, from cerebral hemorrhage, aged 64.

Charles O. Hunt, M.D. University of Pennsylvania, Philadelphia, 1868; a member of the Maine Medical Association; professor of materia medica and therapeutics in the Medical School of Maine, Brunswick; for 28 years superintendent of the Maine General Hospital, Portland; a veteran of the Civil War; died suddenly in the railway station at Scarboro Beach, July 24, from heart disease, aged 70.

James B. Cowan, M.D. New York University, New York City, 1855; formerly medical director of cavalry in the Confederate service during the Civil War; ex-president of the Tri-State Medical Society of Alabama, Georgia and Tennessee and Middle Tennessee Medical Association; died suddenly from heart disease in a drug store near his home in Tullahoma, Tenn., July 24, aged 77.

Homer Lycurgus Law, M.D. Jefferson Medical College, Philadelphia, 1869; a member of the American Medical Association; surgeon U. S. Navy, retired after 16 years service; examiner of recruits for the Navy during the Spanish-American War; died at his home in Hartford, Conn., July 17, from nephritis, aged 61.

Robert Lumley, M.D. Rush Medical College, Chicago, 1895; a member of the Illinois State Medical Society; secretary of the Iroquois-Ford Medical Society;; secretary of the board of health of Watseka and state examiner for the blind; died suddenly from heart disease, in Watseka, July 13, aged 47.

John Edward Redman, M.D. Northwestern University Medical School, Chicago, 1908; a member of the Utah State Medical Association; assistant pathologist and bacteriologist of Holy Cross Hospital, Salt Lake City; died in that institution, July 19, from tuberculosis of the kidneys, aged 24.

Wesley G. Matchan, M.D. College of Homeopathic Medicine and Surgery, University of Minnesota, Minneapolis, 1899; formerly surgeon of the Northern Pacific Railway, and the Soo Line, and physician to the North Dakota State Penitentiary; died at his home in Bismarck, July 21, aged 33.

Linnaeus D. Witherill, M.D. Geneva (N. Y.) Medical College, 1866; for 24 years supreme medical examiner of the Knights and Ladies of Honor; a member of the Binghamton Academy of Medicine; died at his home in Union, N. Y., July 22, aged 64.

Aaron Condit Ward, M.D. College of Physicians and Surgeons, New York City, 1886;; of Newark, N. J.; a medical director of the Prudential Life Insurance Company; died in Bad-Nauheim, Germany, July 19, from heart disease, aged 48.

John Dudley Usher (license, La., years of practice); lieutenant in the Confederate Service during the Civil War; a member of the board of health of Florence, La.; died at his home on Sicily Island, La., July 11, from cancer, aged 70.

Orson D. Reed, M.D. Missouri Medical College, St. Louis, 1894; a member of the American Medical Association; formerly of Rowena, Mo.; died at his home in Frederick, Okla., May 3, from rheumatic endocarditis, aged 39.

James Soren Sorenson, M.D. Rush Medical College, Chicago, 1890; of Shiocton, Wis.; a member of the Wisconsin State Medical Society; died in Neenah, Wis., Oct. 12, 1908, from chronic interstitial nephritis, aged 51.

Howard S. Oliphant, M.D. Tulane University, New Orleans, 1885; a member of the Louisiana State Medical Society; formerly of Batchelor; died at his home in Lettsworth, La., March 2, from heart disease, aged 48.

John S. Walston, M.D. Vanderbilt University, Nashville, Tenn., 1891; of Montesano, Wash.; a member of the American Medical Association; was found dead in a hotel in Seattle, July 21, from heart disease, aged 55.

Joseph Anderson, M.D. Kentucky School of Medicine, Louisville, 1853; of Denver, Colo.; a surgeon in the Confederate service during the Civil War; died July 17, aged 77.

William J. Inman, M.D. University of Oregon, Portland, 1906; postmaster of Rainier, Wash., for 8 years; died in the Fannie Paddock Hospital, Tacoma, February 13, from chronic nephritis, aged 43.

William Hail Arnold, M.D. Memphis (Tenn.) Hospital Medical College, 1893; a member of the American Medical Association; died at his home in Eupora, Miss., May 28, from nephritis, aged 36.

John P. Bell, M.D. University of Louisville (Ky.), 1885; one of the largest landowners of Southern Kentucky; died suddenly at his home near Bell, Ky., July 23, from heart disease, aged 51.

Philo Chesebrough, M.D. University of Vermont, Burlington, 1895; Medico-Chirurgical College of Philadelphia, 1893; died at his home in Scranton, Pa., June 30, from tubercular meningitis, aged 32.

Fountain Lorenzo Allen, M.D. Vanderbilt University, Nashville, Tenn., 1885; of Lamasco, Ky.; died at the City Hospital, Nashville, July 13, from septicemia, the result of carbuncles, aged 54.

George T. Carpenter, M.D. Rush Medical College, Chicago, 1880; of Chicago; at one time professor of dental surgery in the affiliated dental college; died at Buchanan, Mich., July 20, aged 61.

William J. Craigen, M.D. University of Pennsylvania, Philadelphia, 1859; formerly of Cumberland, Md.; died suddenly at his home near Baltimore, July 17, from cerebral hemorrhage.

William H. Fish, M.D. Medical College of Ohio, Cincinnati, 1875; a member of the Kentucky State Medical Association; died at his home in Nicholasville, Ky., July 19, from uremia, aged 57.

Marion A. Atkinson, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1872; died at his home in Eureka Springs, Ark., July 14, from cerebral hemorrhage, aged 62.

John Henry Crockett, M.D. College of Physicians and Surgeons, Baltimore, 1879; a member of the Medical Society of Virginia; died at his home in Tazewell, July 12, aged 56.

Nathaniel Bowditch Morton, M.D. Harvard Medical School, Boston, 1881; formerly of New York City; died suddenly in Long Beach, Cal., July 19, from heart disease, aged 50.

Thomas Brown, M.D. University of Nashville, Tenn., 1905; a member of the American Medical Association; died at his home in Memphis, July 14, from peritonitis, aged 26.

Jonathan Kay Wrigley, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1877; died at his home in Altoona, Pa., July 18, from cancer of the liver, aged 54.

Philip Z. Fretwell, M.D. Southern Botanical-Medical College, Forsyth-Macon, Ga.; died at his home in Conyers, Ga., June 3, 1908, from cancer of the stomach, aged 81.

Charles James Beise, M.D. Rush Medical College, Chicago, 1894; of Mankota, Minn.; died in Mapleton, Minn., in December, 1908, from tuberculosis, aged about 40.

Roy A. Miles Collins, M.D. Drake University, Des Moines, Iowa, 1904; of Portland, Ore.; was shot and killed by his wife in that city, July 24, aged 33.

James A. Shackelford, M.D. University of Maryland, Baltimore, 1876; of Greenville, Miss.; died at the home of his nephew in Carrollton, Miss., July 19.

Benjamin Franklin Garrison, M.D. Vanderbilt University, Nashville, Tenn., 1891; died at his home in Keota, Okla., July 14, from heat exhaustion, aged 43.

Robert W. Muhleman, M.D. Pulte Medical College, Cincinnati, 1877; died at his home in Bellaire, Ohio, July 18, from pulmonary hemorrhage, aged 55.

John R. Wright, M.D. Vanderbilt University, Nashville, Tenn., 1899; died at his home in Honea Path, S. C., July 20 from tuberculosis, aged 33.

Harrison W. Winstead, M.D. University of Nashville, Tenn., 1856; died at his home in Franklin, Tenn., Oct. 17, 1908, from chronic bronchitis, aged 77.

John Sutherland (license, Ky., 39 years of practice, 1895); of Willisburg, Ky., died at the home of his son in Harrodsburg, Ky., July 2, aged 83.

John M. Blackerby, M.D. Medical College of Ohio, Cincinnati, 1866; died at his home in Germantown, Ky., June 17, from senile debility, aged 88.

Ira D. A. Diller, M.D. Baltimore Medical College, 1898 died suddenly at his home in York Springs, Pa., July 12, from heart disease, aged 36.

Sara L. Valentine, M.D. Hahnemann Medical College, Chicago, 1887; died at her home in Chicago, July 25, from chronic nephritis, aged 66.

Ernst Jacob, M.D. Miami Medical College, Cincinnati, 1889; of Cincinnati; died in the Deaconess' Hospital in that city, July 19, aged 45.

George P. Phillips, M.D. College of Physicians and Surgeons, Baltimore, 1890; died at his home in Early Grove, Miss., July 14.

Alfred B. House, M.D. University of Michigan, Ann Arbor, 1866; died at his home in Memphis, Mich., July 9, aged 74

James M. Edwards, M.D. Tulane University, New Orleans, 1871; died at his home in Sturgis, Miss., July 16, aged 61.

Joseph Strawn, M.D. Jefferson Medical College, Philadelphia, 1869; died at his home in Philadelphia, July 16, aged 66.

Frank Hodge, M.D. University of Buffalo (N. Y.), 1860, died at his home in Hudson, N. Y., July 14, aged 75.

Society Proceedings

ASSOCIATION OF AMERICAN TEACHERS OF THE DISEASES OF CHILDREN

Third Annual Meeting, held at Atlantic City, June 7, 1909

The President, DR. CHARLES DOUGLAS, Detroit, in the Chair

Election of Officers

The following officers were elected: President, Dr. A. C. Cotton, Chicago; vice-president,, Dr. R. B. Gilbert, Louisville, Ky.; secretary, Dr. Samuel W. Kelley, Cleveland.

Should the Principles of Nutrition be Taught in our Schools?

DR. CHARLES DOUGLAS, Detroit: The subject of nutrition is of paramount importance to pediatrists. Its relationship to prophylaxis is obvious, inasmuch as it determines the size of the child, tends toward the preservation of health and, to the prevention of disease in later life. The nursing mother should be taught what articles of food should compose her diet so as not to embarrass her child. School children are indolent and unwell because of deficient dietetic training in infancy. Bad nutrition causes dwarfism, dull and idiotic children. The evil can only be corrected by education. Children are compelled to study subjects that have no bearing on the preservation of health while many important subjects are entirely omitted in our schools. The result is that physicians are called to treat diseases that spring from ignorance of this important subject of nutrition. Instruction ought to be given on the function of all the organs of the body. If this plan be carried out, young girls when graduated from school will be versed on the subject of nutrition, and many grave errors will be thus avoided.

The Modern Physician and his Literature

DR. LEGRAND KERR, Brooklyn: The days of the old time preceptor have passed due to the rapid strides made in medical literature. The preceptor, however, has no substitute. With the preceptor the young medical student had an opportunity of acquiring much practical experience; to-day, the young medical graduate knows nothing of the personal side of the practice of medicine. Clinical experience is probably the best. The text-book is the book most used because it is a record of everyday practice. The disadvantage is that it soon becomes out of date, is bulky and expensive. Medical periodicals accomplish much good, but unfortunately when wanted, they are usually found filed away. Less dependence should be placed on text-books. The senior medical student should be taught how to look up the references and how to use the same when found.

Neurasthenia in Infancy and Childhood

DR. E. H. BARTLEY, Brooklyn: Neurasthenia in childhood is now commonly seen. In the etiology, heredity plays an important part, next to which stands gastrointestinal disturbances, unsuitable home surroundings, excessive school work, insufficient sleep, bad nutrition and adenoids. These children usually suffer from night terrors, headaches, anorexia, insomnia, enuresis, and melancholia. In considering the treatment the cause of the affliction must be searched for and removed. In many cases regulation of the diet, attention to personal and general hygiene, an abundance of fresh air and sunshine, long hours for sleep, and cheerful home surroundings will produce beneficial results.

DISCUSSION

DR. J. W. VAN DERSLICE, Chicago: These cases come to us daily and represent the beginning of later organic brain disease. In the treatment the hearty cooperation of the parents must be secured and the treatment be carried out. For the past several years I have put these cases on a restricted diet with very gratifying results.

Mentally Deficient Child in School, a Victim of Educational Methods and Incompetent Boards

DR. H. BROOKER MILLS, Philadelphia: The various physical conditions of childhood such as enlarged tonsils, adenoids, etc., have a tendency to disturb the mentality and to arrest mental development. Many instances could be cited of the hardships imposed on such children by the present school methods of many of our large cities, particularly in keeping them too long in one grade, pressing them too hard with many unimportant subjects, and burdening them with home work for which they are mentally and physically incompetent. To remedy this evil, the following recommendations are offered: 1. Reduction of the school year from ten months to nine. 2. A reduction of the hours of the school day from five to four, with two hours' intermission. 3. Discontinuance of all home work. 4. The physical examination of every child at the opening of the school term in the autumn, and regularly every three months thereafter for the detection of adenoids, enlarged tonsils, impaired vision and hearing. 5. The instructing of the teachers to make careful note of the mentally backward child and report the same to the principal weekly for one month, at the end of which time, if there be no improvement, the referring of the child for medical examination as to its physical and mental condition. 6. The establishment of special schools or special classes in different parts of existing schools for the mentally backward children, each child to be graded according to its mental capacity, regardless of size and age. 7. Separate class-rooms for the boys and girls. 8. Separate schools, or at least separate class-rooms in different parts of existing schools for members of the colored race. 9. Careful inspection of the home life and surroundings of the mentally deficient child, especially as to heredity and the character and caliber of the parents. 10. The report of the school physician or of the family physician to be individually and collectively taken as final, so that the child's mentality may not be passed on by incompetent laymen. 11. Male teachers for the boys and female for the girls, with preferably a male supervising principal in all mixed schools. 12. All differences of opinion occurring between the family physician and the school physician as to the child's mentality and grading should be settled by reference to a third physician to be mutually agreed on by these two.

DISCUSSION

DR. J. W. VAN DERSLICE, Chicago: I agree with many of the points brought out by Dr. Mills, but am not in favor of a shorter school year. I am a firm believer in vacation schools, and think that most of the trouble with our present school systems is due to mismanagement. There should be more intermission during the hours in school.

DR. W. C. HOLLOPETER, Philadelphia: I agree with Dr. Van Derslice that there should be more frequent intermissions for recreation during the school hours. I heartily approve of the recommendations laid down by Dr. Mills.

DR. HENRY I. BOWDITCH, Boston: I would like to add a thirteenth recommendation to those given by Dr. Mills, viz., the establishment of a vacation school in the open air during the hot summer months.

DR. E. H. BARTLEY, Brooklyn: I am heartily in favor of establishing special classes for the mentally backward children, but I do not approve of the excessive pressure now brought to bear on the little ones during school hours. In my opinion the teachers have no choice in the matter inasmuch as they are compelled to follow a schedule laid down by a board of laymen which many of the little ones are unable to handle. I would urge a return to the old method of years ago when the teacher was the sole judge of what a child should be called on to do.

What Should Be Taught Concerning the Calorimetric Method for Practical Use?

DR. J. W. VAN DERSLICE, Chicago: By this method the potential energy of foods can be measured. Only by the estimation of food values can we prevent under-feeding and overfeeding. Infant-food values should be taught in all colleges. The estimation of food values can best be done by the metric system. Too many factors enter into the personal equation of the individual infant to lay down one hard and fast rule.

DISCUSSION

DR. HENRY I. BOWDITCH, Boston: Whatever method we employ in the feeding of infants we should understand that method thoroughly. Each child is a law unto itself, and what

is suitable for one may be unsuitable for another. The calorimetric method should be taught as simply as possible so as not to confuse the student. We should not give the idea that it is all important, but that it is a valuable asset.

DR. A. C. COTTON, Chicago: From observations in the middle west I think that the great majority of the profession is being led into error in looking on this method as a method of infant feeding. I hardly think that the older and more experienced men consider it a good method of feeding. The good physician will not stop to figure the weight of a sick child when ordering a formula. Who knows the caloric value of milk? The experiments performed in this connection have been highly unsatisfactory.

(*To be continued*)

NEW JERSEY STATE MEDICAL SOCIETY

Annual Meeting held at Cape May, June 23-25, 1909

(Continued from page 402)

Intramuscular Mercurial Ingestions in Syphilis

DR. HENRY A. PULSFORD, Orange, said that these have the advantage over mercury administered by mouth or through the skin that one could tell exactly how much reached the circulation. If given by mouth, it was apt to produce diarrhea and to upset the digestion. In the case of inunctions, this was avoided; but there was an unpleasant local effect on the skin. Patients were apt to be irregular about taking their medicine, and to increase or diminish the dose according to their own ideas, and other people were likely to learn about the treatment. In the injection method, these disadvantages did not arise. The only objection to mercurial injections was the pain, first that of the needle thrust, and afterward that caused by the irritating effect of the mercury. It varied in degree with the different preparations used. In spite of the utmost care nodes were sometimes formed, containing a portion of the unabsorbed injection fluid; but this was exceptional. Embolism, though an alarming accident, had never proved fatal. The injection material should be as concentrated as possible. The points for successive punctures should be selected according to a definite plan, so that two or three months may elapse before a second puncture has to be made in the same spot. Trouble in the mouth was the danger signal showing that the treatment should be intermittent.

DISCUSSION

DR. HENRY J. P. WALHAUSER, Newark, called attention to the fact that the shifting of the needle was responsible for the production of emboli. A certain method of knowing whether the needle is in a blood vessel or not consisted in applying an empty barrel to the needle, and then exhausting. If the needle was in a blood vessel, blood would be drawn into the barrel of the syringe. He said that the injection plan of treatment would succeed when all other plans had failed, and made a plea for its more general use by the profession.

DR. JOHN M. BRADSHAW, Orange, said that one should be careful to wipe the needle clean and dry with sterile gauze before the injection was given, thus avoiding pain and an inflammatory reaction.

DR. H. A. PULSFORD referred particularly to the use of gray oil, a difficult preparation to make, as it could not be sterilized, because sterilization broke up the emulsion. It must be prepared with sterile ingredients, in sterile utensils, and under aseptic conditions. He said that its use would repay the trouble of making it, as it caused surprisingly little pain.

Dyspepsia a Misnomer

DR. W. BLAIR STEWART, Atlantic City, said that charlatans, vendors and fakirs had made "dyspepsia" a permanent factor in the minds of laity and profession. He considered the term unfortunate, and said that its use was decried by Dr. George B. Wood of Philadelphia. While the mistakes of earlier practitioners could be overlooked, he did not think at the present day that there was any excuse for snap judgments. One should find the real disease, and not call it dyspepsia. The earlier and more thorough the diagnostic methods used, the more lives would be saved and the more comfort obtained for the patients.

DISCUSSION

DR. J. FINLEY BELL, Englewood, did not think that any physician had a right to take under his care for treatment a patient with indigestion or any one presenting symptoms referable to the stomach, without making a careful examination, physical, chemical and bacteriologic. He contended that the inconvenience and discomfort of the patient in being submitted to these tests constituted a very slight objection. Every physician should have in his laboratory the necessary apparatus. Even without the use of the stomach tube, much information, he thought, could often be obtained by examining carefully the vomitus and the feces.

DR. LINN EMERSON, Orange, thought that while it was ridiculous to say that everybody with gastric trouble was suffering from eyestrain, he considered it nevertheless true that this condition was often overlooked. Eyestrain, he said, could cause all sorts of nervous diseases and gastric disturbances. Another thing that would cause stomach disorder was oncoming presbyopia.

DR. J. WATSON MARTINDALE, Camden, mentioned the absence of teeth as another cause of stomach trouble; also pyorrhea alveolaris, in patients with teeth.

DR. HENRY CHAVANNE, Salem, referred to indigestion produced by mental strain. He thought that before annoying patients by submitting them to the ordeal of various stomach examinations, it would be well for the general practitioner to try the effect of the administration of a little nux vomica or other simple remedy.

DR. PHILIP MARVEL, Atlantic City, did not think that a physician had any right, when he did not know the subject fully himself, to refuse to send his patient to some one who did. He feared that too many physicians were not sufficiently interested in the welfare of their patients to recommend another physician to assist in the determination of the condition present or in its relief. He said that it was within the power of the physician, at the time of passing the stomach tube, to determine the size of the stomach, whether it was distended or displaced, and whether the distribution of its contents was normal; also whether the digestive forces were slow, moderately slow, or extremely slow.

DR. WILLIAM F. RIDGWAY, Atlantic City, said that the symptoms improperly classed under the term dyspepsia were not always due to organic changes, but were functional disturbances that could be obviated by the use of very simple remedies. He did not believe it wise for the general practitioner to use the various tubes employed in investigating through long distances the alimentary canal at either end, as he had seen great injury result from their use by unskilled persons.

DR. W. B. STEWART said that the tenor of his paper had been to emphasize the point that it makes no difference what a disease is called, if a cure is promptly obtained; but that if one's simple remedies fail, the scientific methods of the present day will enable one to discover the exact cause of the disease.

Problems that Confront the Component Medical Societies

DR. DANIEL STROCK, Camden, said that a great loss in goodwill and good-fellowship, and an opportunity to learn from others and instruct others, was caused by not belonging to a county medical society. The distinction of regular and irregular physicians should be abolished, because all had to pass the state board examination before commencing practice, and all colleges had to teach certain things. All physicians who have passed the state board should be eligible to membership in the county society. He also stated that the medical profession had begun to realize the advantage of having medical men in the legislature. If a physician was elected to a political office, the profession should rejoice; because, no matter what his politics, he was still a physician. He said that very few of the public realized that the profession did not approve of lodge practice; and he thought that more publicity should be given the matter.

(*To be continued*)

AMERICAN ORTHOPEDIC ASSOCIATION

Twenty-second Annual Meeting, held at Hartford, Conn., June 14-16, 1909

The officers elected were noted in THE JOURNAL, June 26, 1909, page 2112.

The Place of Arthrotomy in Tuberculous Joint Diseases

DR. V. P. GIBNEY, New York: No material advance has been made in the treatment of these joints during the past three or four decades. Orthopedic surgeons should be able to do just as good work as abdominal surgeons; exploratory operations in the joint are no more harmful than similar operations in the abdomen. Statistics show that no one has been able to demonstrate that tuberculous meningitis is a sequel of operative treatment, and modern aseptic surgery should make an arthrotomy perfectly safe. There is no better way of disposing of the tuberculous lesion in the joint capsule than is afforded by this procedure.

DISCUSSION

DR. J. D. GRIFFITH, Kansas City, Mo.: Has any improvement been made in the treatment or in the length of time required for the cure of these cases during the last few years?

DR. V. P. GIBNEY: I remove all the tissue possible by two incisions. I believe that if any real progress is to be made it will have to be started on entirely new lines. The joints should be cleaned out.

Further Observations on Bismuth-Paste Treatment of Tuberculous Sinuses

DRS. JOHN RIDLON and WALLACE BLANCHARD, Chicago: From another year's observation of the results of this method of treatment, added to the six months' experience with it already reported, we have drawn the following conclusions: It invariably fails in cases of marked amyloid degeneration. It fails much more frequently in new sinuses than in those that have existed several months or years. It should never be used when the *x*-ray shows a sequestrum. Its continued use is dangerous when large pus sacs become filled with residuary bismuth. It cures a majority of the cases of old tuberculous sinus.

DISCUSSION

DR. V. P. GIBNEY, New York: I wish to report a case of sinus of twenty years' standing that I am sure was cured by the bismuth paste.

DR. H. A. WILSON, Philadelphia: I used the bismuth paste for a while, but I was so afraid of bismuth poisoning that I substituted for it a paste made of the identical ingredients minus the bismuth, and obtained as good results with this as with the bismuth paste.

DR. ALBERT FREIBERG, Cincinnati: I believe that a great many of the tuberculous sinuses in joint disease exist because the tuberculosis is still active.

DR. E. RYERSON, Chicago: I consider it dangerous to cut into any uncontaminated tuberculous abscess that is not evidently going to burst. I think it would be better to treat it conservatively.

DR. W. S. BAER, Baltimore: It seems scarcely possible that a sinus can be cured by simply blocking it up. I think it more probable that the nitric acid thrown off from the bismuth paste does the work. It is possible that some way may be discovered of getting free nitric acid without the bismuth.

DR. PRESCOTT LE BRETON: I prefer a plain oily mixture of spermaceti, iodin and vaselin.

DR. DAVIS: I consider iodoform suitable. I have used 10 per cent. of it to the mass of wax.

DR. A. G. GILLETTE, St. Paul, Minn.: The danger of the use of early injections has not been sufficiently emphasized. I once opened a tumor and found it filled with bismuth, which had been accumulating from the repeated injections. I think that the physician should wait a little and see whether the bismuth comes out, instead of following up the injections.

DR. DAVID SILVER: When there are no sequestra I always close the sinuses with bismuth paste. I find it more satisfactory in old sinuses with hard walls.

DR. M. HOKE, Atlanta, Ga.: In cases in which the bismuth treatment had failed I have healed a number of sinuses with pure tincture of iodin injections.

DR. H. A. WILSON: While I do not understand how those sinuses close up solely from mechanical injection, I have reported the cases from actual facts. They do close.

DR. J. J. NUTT, New York: Having been very unsuccessful with iodin, I principally use bismuth paste. The sinuses in my cases took about six months to close.

DR. BERNARD BARTOW, Buffalo, N. Y.: I consider that the mechanical action of bismuth is irritating, just as iodin is, by bringing the blood in greater quantities to the parts and destroying the tissues.

DR. S. L. MCCURDY, Pittsburg: If there is a sterile abscess cavity that is quiescent I can get good results with any variety of paste. In the early ones I always use tincture of iodin.

DR. B. BARTOW: I have not found bismuth paste effectual in many cases of mixed infection.

DR. EMIL C. BECK, Chicago: Cases with no basis of bone in the cavity will clear up at once under the influence of the paste. Usually on the third or fourth day the secretion becomes serous; the sinus opening is covered with a scale-like membrane, resembling that which is found on the tonsil in diphtheria. I think, if my colleagues have failed to get good results from this treatment, they must seek for the cause in their technic.

DR. W. BLANCHARD: I never open old abscesses that are stationary, but if I can open and inject abscesses that are going to open spontaneously the majority will heal without any trouble or any infection. I think that the reason for some of the bad results is that cases with retained sequestra are injected and the fistula closed, the result being simply a corking up of broken-down tissue.

Chronic Inflammation of the Lower Epiphysis of the Tibia

DR. C. H. JAEGER, New York, reported five cases in which limp was the only symptom for which the patients sought advice. Roentgenograms showed a flattening of the head, with thickening, and in some cases necrotic areas of the neck of the femur. The clinical course of these cases was that of a chronic limp with increasing limitation of motion.

Operative Remodeling of the Tarsus for the Immediate Correction of Severe and Relapsed Forms of Club Foot

DR. BERNARD BARTOW, Buffalo: This plan of treatment was based on the idea of the gradual remodeling of the deformity of the astragalus, cuboid and calcaneum, by which the deformed foot is replaced and maintained in an over-corrected position pending adaptive changes in those bones.

DISCUSSION

DR. H. L. TAYLOR, New York: I remember that Dr. Myers of New York a number of years ago suggested along these lines, advocating the excavation of the astragalus. I do not know if he has followed this up or not.

A Preliminary Report of the Use of Animal Membrane in Producing Mobility in Ankylosed Joints

DR. W. S. BAER reported eight such cases.

DISCUSSION

DR. OSGOOD: After using some of this membrane for two weeks there was an increase of motion. Now there is about 80 degrees of motion in the knee, which is painless. Even if no better result can be obtained the patient is better off than before.

DR. GALLOWAY, Winnipeg, Manitoba, Can.: I think that the facility with which a flap of fat and fascia can be transplanted makes the introduction of any other foreign material unnecessary. I rarely advise operative interference. Is the chromicised pig's bladder ready for use or does it require special preparation to make it aseptic?

DR. DAVIS: A discovery of this kind has been very badly needed, as the Cargyle membrane acted as a foreign body. I am more than glad that this membrane does not do so.

DR. JAEGER: I have found that the pathologic changes that take place in a muscle that has been contracted for a number of years form a serious obstacle to treatment. Sometimes the muscles are of an almost board-like consistency.

DR. YOUNG: A few days ago Dr. Murphy told me that he thought that he had been able to perfect the treatment for ankylosis of the hip as well as of the knee.

DR. A. H. FREIBERG, Cincinnati: The knee joint is one that depends on its ligamentous support. Now when an operation involves practically the obliteration of the whole ligamentous structure I do not see how we could expect to have the movements of the joint under control, and if not under control, I think a stiff joint preferable.

DR. BRADFORD: Is only one piece of membrane used in the knee joint?

DR. BAER: The membrane comes ready for use. It can be softened by being put into normal salt solution. Dr. Jaeger is quite right; the bound-down and atrophic condition of the muscles is of great importance. I think that massage should be started immediately after the insertion of the membrane. I insert membrane in one or two pieces. One piece is carried back underneath the condyle as far as possible. A second piece is then laid between the patella and the top of the superior portion of the condyles, sewed well down at the sides of the folds of the synovial membrane to the lower surface, and then cut off.

Tendon Transplantation in Flat Foot

DR. E. RYERSON, Chicago, advocates division of the peroneus longus and brevis in operations for correcting the mal-position of the foot, and said that there was a possibility of transplanting one or both of these tendons to the inner border of the foot, thus relieving the distorting tendency and supplying a partially corrective force.

DISCUSSION

DR. YOUNG: I have transplanted into the tibialis anticus and have always found this method satisfactory.

DR. MEYERS: I should recommend the transplantation of the entire tendo Achilles to the posterior surface of the os calcis.

DR. M. HOKE, Atlanta, Ga.: The incorrectness of posture depends not only on muscular, but on skeletal changes. When there is a long-continued posture of abduction the head of the astragalus changes its shape. I have never done muscle or tendon transplantation, but have done a plastic operation on the head of the astragalus.

DR. WILSON: One difficulty that I have encountered at an operation was in detaching the long stretch of tendon at the toe after it had been divided subcutaneously. I feel that Dr. Ryerson has added another procedure of distinct value in the correction of flatfoot.

DR. BLODGETT, Detroit: Three years ago I reported a series of cases in which, after linear tenotomy of both peronei, function was restored. I think that to turn all the force of the peronei into abduction and take away the opposition of abduction would insure weakness of that system.

DR. MCKENZIE: I think that transplantation of the peronei would be more likely to be harmful than helpful. A tendon or any structure must necessarily pull from the point of its origin, its action reaching forward to its insertion. It pulls toward a pully, which is at the fibula, and must pull the foot outward instead of inward.

DR. RUGH: In cases of paralytic valgus I have been in the habit of bringing the peronei posterior to the ankle joint or inserting them in either the scaphoid or the cuneiform.

DR. DAVIS: In making a transplantation of the extensor longus hallucis the functions of these muscles should be borne in mind. The main function of the big toe is to give the thrust forward. Therefore, its strength is in its flexor.

DR. YOUNG: I would like to know whether or not there were any symptoms of palsy in Dr. Ryerson's cases? The case had been mistaken for palsy.

DR. RYERSON: I think that Dr. Myers' suggestion of transplanting the tendo Achilles to the posterior surface of the os calcis most ingenious, and one that ought to be of great benefit in equino varus. I scarcely think, however, that it would help to correct a valgus foot, because the deformity is in front of the os calcis, and not in the rear.

Treatment of Talipes Valgus

DR. R. T. TAYLOR, Baltimore, said that it was his aim to discard plates entirely in this condition, as their use is often abused. He also demonstrated single brace straps for talipes equino varus.

DISCUSSION

DR. COOK: While agreeing with Dr. Taylor, I think that there are a few things not clearly brought out in his paper. In the first place, anything that holds up the inner posterior arch must divert the outer posterior, and when a foot is inverted the outer edge is depressed and the inner edge raised. Secondly, Dr. Taylor said that he had given up the use of plates, yet he certainly has adopted one of a different sort, as the piece of leather used is nothing more or less than a plate. I do not consider that Dr. Taylor has done away with plates at all; he merely builds them in his shoes. I think that Dr. Taylor's shoe might have a little better heel.

DR. LE BRETON: Could the average shoemaker make these?

DR. TAYLOR: I do not see why not. I have one man who does all this work for me.

DR. TWINCH: What is the cost of the whole thing from the time the patient comes to the orthopedist until he has been satisfactorily fitted with shoes? People, as a rule, do not care to pay fifty dollars for shoes.

DR. DAVIS: Perhaps the best solution of the question would be to have the patient buy a pair of store shoes and have the instrument maker split the shank and insert a piece of steel.

DR. V. P. GIBNEY, New York: I wish to enter a protest against leaving cases of weak foot flatfoot, etc., to the shoemaker, after the first examination and prescription.

DR. GALLOWAY: I agree with Dr. Cook that plates can not be entirely discarded. I think that some such method as the use of simple plates, combined with muscle training and the education of the patient in the correct method of using the foot would be the most beneficial method of treatment.

DR. BRADFORD: I think that if Dr. Taylor were to claim this as an invention he would find that some of the Boston shoemakers would issue an injunction against him.

DR. V. P. GIBNEY: I hate to deprive any one of being the original plate man, but as far back as 1871 I was using plates very much like these employed at the present time.

DR. TAYLOR: In regard to Dr. Davis' suggestion of using a ready-made shoe, the main difficulty is that the ordinary shoe is not sufficiently adducted. A special pair of shoes would cost eight or ten dollars.

Etiology of Hallux Valgus

DR. J. K. YOUNG, Philadelphia, ascribed the deformity to the presence of a supernumerary bone between the internal cuneiform bone and the base of the first metatarsal. He gave the clinical histories of some cases and exhibited *x*-ray plates and specimens to verify his hypothesis.

DISCUSSION

DR. A. H. FREIBERG, Cincinnati: I think Dr. Young's theory an interesting one, but believe that it has been presented in such an incomplete manner that one would not be justified in drawing conclusions from it.

DR. JOHN DANE, Boston: I have hunted for supernumerary bones in this locality, and have found a large number. In many of these cases, however, there was no hallux valgus; so in these cases the supernumerary bone had failed to produce this deformity.

DR. C. RIELY: When I saw Dr. Young's *x*-ray picture I realized that I had a patient with the same condition. I had an *x*-ray taken of my case and found that a supernumerary bone was present.

DR. E. RYERSON, Chicago: Why may not this supernumerary bone be the result of the hallux valgus, and not the cause of it? I think that these outgrowths may be to a certain extent due to the application of Wolfe's law.

DR. WILSON: I made a radiographic study of one hundred and fifty feet, but failed to find anything except a higher or lower degree of hallux valgus.

DR. C. RIELY: My patient's hallux valgus was congenital.

DR. YOUNG: Probably not more than one or two kinds of supernumerary bones produce hallux valgus, but I think my variety is the one that produces this deformity. I have not had time to demonstrate whether the supernumerary bone is the result or the cause.

(*To be continued*)

STATE MEDICAL SOCIETY OF WISCONSIN

Sixty-third Annual Meeting, held at Madison, June 30-July 2, 1909

(Continued from page 316)

Case of Pseudocoxalgia of Psychopathic Origin: Recovery Under Suggestive Treatment

DR. RICHARD DEWEY, Wauwatosa: The patient was a girl of 13 of neurotic temperament and heredity who had an intimate friend who suffered from hip-joint disease. The patient believed herself affected with the same disease and for over four months stayed in bed a good deal, though she went about occasionally on a crutch. She was treated with plaster cast and pulley and weight. She had daily attacks of pain attended by violent screaming regularly at a certain hour. Her left knee became hysterically contracted. Relief was obtained the first day of admission to the sanitarium by psychotherapeutic measures. The patient gained 10 pounds in two weeks and has now been well for a year.

DISCUSSION

DR. HAROLD N. MOYER, Chicago: There has been a recasting of our opinions regarding hysteria, as well as neurasthenia and the various forms of psychasthenia and allied disorders. These conditions are often pure mental or even "soul" diseases, but they must be recognized and treated as real, although the disease has no physical basis whatever. The anesthesias in these cases are the result of suggestion, as are the narrowing of the visual field and all the typical so-called cardinal signs of hysteria. The condition is a pure suggestion neurosis, but organic troubles are frequently if not usually found associated with hysteria. The problem is to unravel these two conditions. These conditions must be treated earnestly and honestly with correct technic and not dismissed uncared for because there is no physical lesion. When the medical profession treats these diseases properly with correct technic, and as it is now beginning to do, all these Christian Science, Emmanuel and other movements will disappear.

DR. W. B. HILL, Milwaukee: Inasmuch as these hysterical conditions are usually associated with organic lesions, the question arises as to whether or not the "soul" disease is not a result of the organic condition.

DR. G. T. ADAMS, Kenosha: I think it likely that organic disease through lowering the patient's powers of resistance might lead to psychical phenomena. The use of the term "hysteria" should be condemned. The condition is real, but the term has come to mean something foolish, silly and controllable. Suggestion is the proper means of cure. Distract the patient's attention from his sufferings.

DR. C. H. SEARLE, Palmyra, Wis.: These patients need rest, more or less as a rule, and to be kept from sympathetic friends and relatives.

DR. A. W. ROGERS, Oconomowoc: The term hysteria should never be used. To lack of sympathy with hysterical patients and inherent dislike to treat them, the medical profession is really responsible for the existence of cults.

DR. RICHARD DEWEY: Patients often receive unfavorable suggestions from the physician's examination. This class of patients is rarely conscious of deceit. There is nothing so good for these patients as a plain straightforward explanation, disregarding all clap-trap and attempts at hypnotism.

Anomalies of the Mastoid from a Surgical Standpoint

DR. H. B. HITZ, Milwaukee: These anomalies, including some of the most difficult conditions met by the otologist, were illustrated by stereopticon slides of photographs and drawings of a large number of cases. An early diagnosis should be made and when it is positive as little time as possible should elapse before an operation is undertaken. When an operation is done, let it be thorough and complete. The day of halfway measures, of Wilde's incisions, timid scratchings of bone and the like, belong to a past age and generation. Use your best judgment and all other faculties to finish your work at one sitting, and thus avoid the manifold dangers of a secondary operation. Do not stop short of completion or pass by suspicious areas without careful investigation and, finally, in the light of some recent experiences of mine of having to patch up the faulty work of others, let me advise that unless you feel competent to cope rationally with the emergencies or unusual conditions you do not undertake a mastoid operation.

DISCUSSION

DR. N. M. BLACK, Milwaukee: If more mastoids were opened, even when objective and subjective symptoms are hardly positive, fewer intracranial complications of otitic origin would ensue, and much suffering would be avoided. It is important that the operation should be thorough.

DR. C. D. CONKEY, Superior: The cellular condition of the mastoid is a great deal more extensive than we usually imagine. Bear this in mind in operating and be sure to break down all the diseased bone. A great many of the headaches in childhood may be ascribed to subdural abscesses, which are generally absorbed and heal themselves.

Conservative Surgery of the Ovaries

DR. J. M. DODD, Ashland: The tendency toward conservatism in surgery is growing. We now aim to leave a portion of the ovarian tissue in order to avoid precipitating a stormy menopause, which is often a more serious condition than the one for which the operation was done. Ovarian disease is not easily diagnosed; many cases are overlooked. Pregnancy is no contraindication to removal of the ovaries. Anesthesia, asepsis and skilled operative technic have robbed the operation of its terrors.

DISCUSSION

DR. EDWARD EVANS, La Crosse: Ovariotomy has been overdone. The conservation of the ovaries should begin at birth. Plenty of exercise, good hygienic surroundings, and relief from overwork during school life, prevent diseases of the sexual organs. In removal of ovaries diseased through gonorrhea or tuberculosis, leave no portion of the ovary behind, but do not always operate in gonorrhea. In many of these cases the patient makes a good recovery. Do not be too radical.

DR. C. W. OVIATT, Oshkosh: Never remove any ovary without some definite and good pathologic reason. Every time a woman is deprived of her ovaries for some nervous condition she becomes a nervous wreck. Do not remove the ovary because of the existence of small cysts in that organ.

Diagnosis and Treatment of Renal Calculi

DR. J. F. SMITH, Wausau: During the last decade marked progress has been made in the diagnosis and treatment of renal calculi because of the introduction and more general employment of newer and more accurate means of diagnosis, such as the Roentgen ray, cryoscopy, ureteral catheterization and the determination of renal functional capacity. The following points may be emphasized: 1. Clinical symptoms are inadequate in the diagnosis of renal calculi. The Roentgen ray must be relied on to give accurate information as to the size, number and location of the stones. 2. Renal stone becomes a surgical condition as soon a definite diagnosis is made. Expectant treatment is to be recommended only in the presence of distinct and definite contraindications to a major surgical operation. 3. In the simple cases with a single stone, pyelotomy is the operation of choice; in the affected cases, cases with multiple or parenchymatous stones, nephrotomy with drainage is to be carried out; in the cases with extensive infection and destruction of renal tissue primary nephrectomy should be done in the absence of distinct contraindications.

DISCUSSION

DR. F. G. CONNELL, Oshkosh: The history of the past few years shows conclusively that there are more cases of stone in the kidney and ureter than has previously been suspected. It is difficult to make differential diagnosis sometimes from appendicitis unless the cystoscope and *x*-ray are used.

DR. E. A. FLETCHER, Milwaukee: Great progress has been made in the treatment of these surgical conditions, but there is room for great improvement in diagnosis; mistakes in diagnosis have been very common. The *x*-ray, the cystoscope and ureteral catheterization are important means of diagnosis. The cryoscopic test is useful.

DR. DENNIS J. HAYES, Milwaukee: The main cause of these stones is obstruction. Kidney conditions involve the most difficult points of diagnosis in the whole range of surgery.

(To be continued)

AMERICAN ACADEMY OF MEDICINE

Thirty-fourth Annual Meeting, Hotel Dennis, Atlantic City, N. J., June 5-7, 1909

(Concluded from page 403)

What Is Being Done for Backward and Mentally Deficient Children in the Public Schools of Philadelphia

MISS LYDIA A. KIRBY, Director of Schools for Truants, Incorrigible and Mentally Defective Children: A systematic attempt to help backward and mentally deficient children was the result of efforts of Miss Margaret Bancroft of the Training School of Haddonfield, N. J., member of the Civic Club of Philadelphia, and Miss Dora Keen, of the Public Education Association. In 1901 the Board of Education took hold of the movement. At present there are twenty-one classes. The sessions last from 9 a. m. until 2 p. m. Nature study is given prominence. Each school is provided with a shop containing twelve work benches with tools, and some pupils who can not remember their spelling do good work with their tools. Other pupils have raffia, cardboard, Sloyd chair caning, basket making and hammock making. The training of the muscles at the dictation of the mind is one of the most valuable ways of helping these children. Sense-training exercises are used for those who are most defective, and special exercises are employed to correct defective speech. Music is a daily exercise, and physical training is given in the school yard. The school physician visits the class daily. The chief value of the teachers lies in their character and disposition. They must possess unlimited sympathy and patience. A record of the work shows conclusively that apparently hopeless cases of physical inability, moral and mental deficiency may be partly or wholly overcome, under adverse school conditions, with the aid of devoted teachers. The study of defective children should form a part of the work of every normal school.

What May Be Done for Exceptional Children by the Training of Speech and the Development of Language

DR. G. HUDSON-MAKUEN, Philadelphia: Speech bears somewhat the same relation to the mind that the hammer and saw bear to the carpenter. It is the mind's most effective and most important tool, being not only the vehicle in which the products of the mind are transferred and delivered, but being essential also to the creation of these products, to their crystallization, collection and classification. If a person's speech be trained and perfected his mentality must be greatly improved. Defective speech is both a physical and mental sign of feeble-mindedness, but it is by no means a pathognomonic sign, and it may be a cause and not a result of the feeble-mindedness. Of 5,000 examinations of exceptional persons observation and treatment ranged from several weeks to as many years. The examinations included individual and ancestral histories, and mental and physical investigations. In a series of five cases reported the children were all suffering from arrested speech development with a resulting corresponding arrest of mental development, or an abnormal mental development. In the first four the patients were under treatment for more than a year and the results have been most satisfactory. Only one of the children made any attempt to talk and his speech was a mere jargon. These four are now all talking freely and intelligently and have, moreover, freed themselves entirely from the charge of feeble-mindedness. In the fifth case there has developed some evidence of faulty cerebration. Aside from the direct mechanical means employed that were employed for the restoration of hearing treatment consisted entirely in the training of the faculties of speech. Four other cases reported illustrate what may be done for children who are exceptional on account of certain psychophysical peculiarities, one of the chief symptoms of which is defective speech, and they also illustrate the fact that speech training is probably the most direct and effective method of developing the human mind.

Discussion on Exceptional Children

DR. RUTH WEBSTER LATHROP, Philadelphia: In considering the physiologic aspect of the problem it is important to recognize that functional activities rest on the sure foundation of physics and chemistry. Physiologic potentials, the logical basis of Dr. Groszmann's comprehensive classification, depend on the storing of energy as cohesion, chemical affinity, etc. Life consists in the balance between the stored and liberated energies, the maintenance of identity of the organism and adjustment to the environment by responsiveness. The neuron doctrine holds an important place in cell physiology (the physiology of to-day). The neuron is the nerve-cell-body with all its processes, and it is the physiologic unit of the nervous system. A series of neurons make the paths by which most acts are accomplished. The diagrams presented by Dr. Groszmann illustrated only the neuronic paths for vision and its reflex response, but these are typical for all neuronic activity. Cerebral afferent, efferent and association paths constitute the mechanism as shown on these charts. Physiologic continuity must be distinguished from anatomic continuity. Normally, the brain may receive impulses from the cord and special sense organs, store them, distribute them within itself and reflect them; in other words, there must be normal sense organs, conduction paths and central cells. These cerebral acts are the basis of sensation, association, volition, the psychical acts, whose sum total is the mental life. Exceptional children vary in potentials, in the power to perform these normal acts, outside the limits of the average considered as normal. Many may be brought within the average variation by the same processes that are operative in the normal. Secure proper hygienic conditions; develop structures by use; shorten reaction time by practice; cultivate associative memory by experience, and by training inhibit all but the best responses to stimuli. Finally, since there is "nothing in the intellect not first in the senses" the normal must be secured and maintained by exciting sensation, thereby stimulating associative memory and thereby in its turn volition, the highest inhibition. Popularly this normal demands a sound mind in a sound body. In science this is conceived of as the physiologic balance.

DR. PHILIP, ZENNER, Cincinnati: In the results of physical examinations of school children in Cincinnati, there were found an enormous number of defectives with the indications that the defects of eyes, nose, throat or of other organs were not the prominent cause of the backwardness but that the backwardness was due rather to the mental type of the child and to the fact that the school work did not accord with its needs. This seems to be proved by the fact that an adaptation of the school work to the requirements of the child was followed by great improvement, though the physical defects were largely unheeded. The large number of defects found in these children shows plainly indeed the need of a school physician devoted to that work and especially prepared for it. His preparation should include ordinary school hygiene, special skill in the diagnosis of disease and defects of childhood, and an understanding when these defects should be treated, because I believe conservatism on the part of the physician is often of inestimable value to the child. His preparation should also include the psychology of childhood. He should be prepared to assist the teacher in the discovery of the cause for, and the proper treatment of a dull child, an incorrigible, or an ailing one. He should be thoroughly prepared further to explain to school children the problems of tobacco, alcohol and sexual hygiene. His influence also should be such that his advice would be followed.

DR. M. P. E. GROSZMANN, Plainfield, N. J.: I should like to emphasize the point brought out that the school physician ought to be well trained for the important position he is expected to hold. The most inexperienced tyros are appointed who gain their experience at the expense of the children.

DR. A. R. BAKER, Cleveland: A point to be emphasized and one on which this Academy could speak authoritatively is that since so small a proportion of children are to become professional men their education should be conducted with a view to the practical rather than otherwise.

DR. FARRINGTON: I should like to emphasize that which I think Miss Bancroft would consider of extreme importance, the value and necessity of enthusiastic individual effort on the part of every physician to educate his patients. I believe that bodies of physicians can do a very great deal of good by bringing their influence to bear on this problem.

DR. J. P. MURPHY, Philadelphia: As Dr. Baker has said a large number of children are not meant for scholars and never can be such, so our work with these exceptional children should be to make good laborers, good mechanics out of them.

SYMPOSIUM ON CONTRACT PRACTICE: ITS PRESENT AND FUTURE

Congregational Practice

DR. A. L. BENEDICT, Buffalo: The ethical and economic evils involved in contract practice are not intrinsic but circumstantial. The trouble with contract practice in the ordinary sense is largely that the premium is not calculated at an adequate rate to provide satisfactory attendance for an average incidence of cases. From the standpoint of the medical practitioner the contract physician is regarded in precisely the same light as any other worker who lowers the wage scale. From the standpoint of the laity his service is usually unsatisfactory because, with few exceptions, the man who accepts any form of contract at a loss will not discharge his obligations in good faith, and acceptance usually implies incompetence or the disposition to advertise himself. While certain fallacies of the Chinese method of paying the physician to keep his patient well are obvious, the fact is recognized that the value of the physician as an educator and conserver of health would be much greater than according to the occidental method of summoning him in sickness. From the standpoint of economics it is obvious that the interests of the average physician require some change from the present narrow method of rendering service to the laity and attempting the broader function of adviser to the community. It is none too early for the medical profession to consider seriously how it may actually fulfil this higher and more utilitarian function.

Contract Practice

DR. CHARLES S. SHELDON, Madison, Wis.: For convenience we may class contract practice under two general heads: (1) Contracts stipulating a certain sum per year for an indefinite amount of work: as for example, the attending members and their families, belonging to a certain lodge or benevolent society, or the paupers of a city or county, or the operatives working at a certain factory, for a small sum yearly; (2) contracts stipulating a specified fair remuneration for a specified amount or kind of work; as for example, examinations for life insurance, for civil service, surgical work for railroad companies or factories, etc. In either class, if the compensation be commensurate with good service and compares favorably with that paid in private practice the most serious objection would be removed, but the tendency of the whole system is to obtain medical service at the lowest rates regardless of all else. In condemning the practice, there are certain exceptions suggested, provided contracts are made the basis of a legitimate price for the work stipulated; for example, with large corporations in remote and isolated mining or lumber camps. Under proper contracts, we may also accept railroad, city or county work, also hospitals and institutions employing a physician on a salary, also on vessels at sea, etc. But even these are not exceptions if the contract is awarded to the lowest bidder, and but little account is taken of skill and efficiency. The spectacle of reputable physicians underbidding each other to secure a contract is neither dignified nor professional and should be wholly discountenanced. If contract practice is bad for the parties most immediately involved it is equally injurious to the medical profession as a whole. At a time when we are endeavoring to effect an organization of the medical profession to secure better laws, better medical education and higher professional standards, this system stands as one of the most actively disturbing forces in preventing unity of action. If the profession really thinks that this thing is an evil and is threatening the future peace and prosperity of physicians, it can best be controlled by the expression, within the profession, of a public statement which shall be effective because founded on good sense and justice.

Contract Practice: Its Ethical Bearings and Relations to the Lodge and Industrial Insurance

DR. H. T. PARTREE, Eatontown, N. J.: In my opinion, the only form of expressed contract to which a physician should become a party is that in which substantially his whole time is taken up in a special work concededly for the public interest, or at least, one which imposes no conditions out of harmony with the general aims and high calling of our profession. The bane of contract practice is the desire to get the best of a bargain. There are many phases of the lodge problem in its relation to the physician. Merit and the public weal certainly are not given prior consideration in connection with this contract practice feature of the lodge. Regarding the relation of the physician to industrial insurance, I contend, it is not to the dignity of the profession that its members should be expected to hustle around from pillar to post for 25 and 50 cent fees to see applicants in their own homes because they can not be counted on to walk ten rods to get the insurance. Besides it is usually necessary to see these individuals on Sunday—a most objectionable feature. My remedy is that all applicants go to the office of the examiner or local superintendent. Once the public learns that insurance would not be so expensive if they did a little seeking instead of letting the agent do it all, it would not take them long to find the examiner's office.

Contract Practice in Rhode Island

DR. GEORGE S. MATHEWS, Providence: For convenience lodge practice may be classified according to (1) private clubs; (2) lodges and fraternal organizations; (3) works, or shop organizations. In discussing the subject of lodge or contract practice with a large number of medical men who engage in it, it was found that in but a few instances was there an ardent advocate of the system. In canvassing the members of the Rhode Island Medical Society it was found that nearly every one is opposed to the system. While the strongest advocate admits that there are some evils connected with the system, the severest critic must concede that under certain conditions there may be some good in the method. The remedy I would suggest is that proposed tentatively by a Committee of the British Medical Association several years ago:

1. Let there be lodges or fraternal insurance companies, but have the doctor paid a fee, even in bulk, more in proportion with the work done.
2. Let the membership in these organizations be limited to those whose wage is incommensurate with the needs of the family.
3. Have the medical management of the lodges in the hands of the local medical society or a committee of the society.
4. Have those physicians who are willing to do this work form a directory from which the individual lodge member may make his selection of his physician.

The Physician in Contract Practice with the Mutual Benevolent Societies

DR. A. RAVOGLI, Cincinnati: Contract practice for the physician offers different aspects and is not to be summarily discarded. The mutual benevolent societies usually employ young physicians, but well-trained and of reputed skill. It is in their interest to have their members well attended and soon recovered that the sick benefits may cease. If the contract calls for merely a nominal remuneration with heavy duties, this is debasing of the profession. If the conditions are such to leave freedom to the physician to treat only the members of the benevolent society, and exacting payment from the other members of the family the contract practice can not be considered injurious to the profession. If another physician entered the society offering to do the same work for less remuneration, then the fault lies with the member of the profession and not with the benevolent society.

A Defence of Contract Practice

MR. JOHN C. MCMANEMIN, Past Worthy President Atlantic City Aerie, No. 64, Fraternal Order of Eagles: Although the "contract physician" is ostracised by medical societies, the members of these same societies, ofttimes enter the field of "contract practice" as assistants to other physicians, as family physicians for insurance companies and various like forms. Commercialism seems to be the basic principle of opposition to contract practice. The deprivation of fees is hidden under the shallow mask of lowering of professional ethics and cheapening of medical knowledge. The "contract physician" has a fixed income, obtains a large and varied experience from the heterogeneous practice and enjoys a confidential relation to a large portion of the community in which he resides; a foundation on which many a successful practice rests and to which many a physician of prominence to-day can attribute his success. He is a boon to the laboring man; to the man of wage and small salary, more especially if he be blessed with a large family, the thought of the expense incurred oft deters him from sending for a physician until the ailment has ravished the health of the patient, while had the ailment been treated

in its incipiency, recovery might have ensued promptly. Then in prolonged illness the physician's fees often mean many years of struggling against debt.

Why Not Make Contract Practice Universal?

DR. WOODS HUTCHINSON, New York: Our present system of medical attendance is a makeshift and an anomaly. Born in an emergency and tinkered up at odd times. It has never been properly planned out or thought through. It combines the maximum of expense to the patient, and of loss by all sorts of accident, to the physician, with the minimum of health production and of prevention. Why not take advantage of the law of averages, both of mortality and morbidity, arrange a definite scale of fees for yearly attendance per patient and per family, and devote the best of our energies to keeping our patients well, instead of patching them up after they have fallen sick? The yearly fee, which could be carefully worked out by a conference of all parties concerned, and adjusted to the locality, income and social position of the patient, should include a thorough physical examination of every member of the family at least twice a year, whether they felt out of health or not; and sanitary inspection at regular intervals of the house, water supply, drainage and sewage, and conditions of places of work or study of each individual.

Discussion on Contract Practice

DR. F. T. ROGERS, Providence: It is not complimentary to us as physicians that the most logical presentation of this subject has to-day been made by a layman. Academic discussions of contract practice, though interesting are not always practical. The profession is looking for a remedy. That which prompts the young doctor to take up lodge and contract practice is the need of the dollar. Only when we have been through the adversity of early practice and have done our share of this belittling work can we afford to say how our brethren shall conduct their business. When Mr. Carnegie had made his millions by grace of the tariff he discovered that the tariff was unnecessary. It is the need of the man that governs this practice and it is the man himself who can remedy it. When a man makes himself so valuable to the world that his services are worth something he will not be bothered with contract practice. The remedy lies with us as men, not as members of a profession, and any action of this Academy which does not recognize this fact will be futile.

DR. WILLIAM L. ESTES, Philadelphia: I can not give in a better way the effect of this method of practice than to cite actual instances. One was that of a former assistant who went into contract practice in the coal regions, who was given a monthly salary of $600. Apparently, for a man just beginning, that was an excellent thing. The facts, however, were that he had to care for about 3,000 people, which would mean about 56,000 visits a year. This necessitated engaging two assistants, which materially reduced his income and still left him under the necessity of making thirty to forty visits a day. Taking an average of fifteen hours for a working day, and devoting half an hour to each patient, he would be reduced to simply a distributing agent of ready-made tablets. When later after giving up this field and attempting to engage in private practice nearby he found that the idea of the lodge practice had permeated the whole community and that it was impossible to secure anything like adequate fees. In another case, that of a young man taking a lodge practice, the figures carried out would mean 7½ cents per patient per visit. I think the remedy for the evil lies in an organized profession elevating the standard of education and of morals which will bring with it the proper self-respect until people will see and understand that medical men can not be had but for a just and equitable distribution of the things which come to all people of the community.

DR. HENRY B. HEMENWAY: For over twenty-five years I have been a contract practitioner. I have been the surgeon for railroads, for industrial plants, for the health department of a municipality, all of which positions are phases of contract practice. I have had a little experience in lodge practice, entered into as a matter of accommodation to some of my regular patrons, and my experience in that regard has not been unsatisfactory. Yet I gave up my position as a lodge physician and have refused further work of that kind. I feel that it is detrimental. The idea that we shall eventually have a universal contract practice somewhat as suggested by Dr. Hutchinson, keeping our people well, is not to my mind utopian.

DR. F. LAWRENCE, Columbus: If there is anything that has placed ignominy on the medical profession it was the medical service in the Spanish-American War, which was based on contract practice. When a man is paid practically nothing for what he does and there is no necessity for him to put forth personal energy he is done great harm and the day competition is removed from between two men one or the other is at a standstill. Thirty or forty visits a day as required often under contract practice means absolute inability to study the case properly.

DR. TOMLINSON: I feel that in the end the man who gets the best return for his services is the man who by his conduct, skill, interest and enthusiasm in his work deserves it. To my mind, the greatest disadvantage in contract practice, particularly for young men, is the development of slovenly, indifferent and utterly unscientific methods by which they become merely purveyors of the wholesale drug house.

DR. TUCKERMANN: American physicians have been digging their own graves by doing, from a humanitarian idea, charity work for communities well able to pay. The whole question of whether or not the contract is equitable rests on whether the amount to be paid will allow a man to return proper service to the community, keep up his education and educate his family. If it does not it is not a proper contract. Public contracts are not charity transactions, and when we expect men to conduct clinics, carry out school inspection, etc., for inadequate pay we are making a sad mistake.

DR. THOMAS D. DAVIS: Regarding the definition of contract practice, it does not seem to me that it is fair to say that when a man agrees to charge a fee for a certain amount of work that that is contract practice. That we all must do in our professional work. What I believe to be contract practice is agreeing for a certain sum to do a whole lote of indefinite work.

DR. JOSEPH K. WEAVER: My impression is that the time is not far distant when contract practice, at least, in Pennsylvania, will be discontinued entirely, as it is now in the Montgomery County Medical Society of the state.

DR. C. S. SHELDON, Madison, Wis.: I was painfully conscious that in this symposium we could arrive at no set of conclusions, that the effort was more a groping about to get out of a bad situation. As Dr. Hutchinson has suggested, there are perhaps some good points in contract practice, notably in the fact that some persons who are unable to pay regular prices have the opportunity of paying small prices with the preservation of their self-respect.

DR. H. T. PARTREE, EATONTOWN, N. J.: It has been well brought out that the indefiniteness of lodge practice is the absolutely objectionable feature, and, as Dr. Weaver has said, medical societies throughout the country are frowning upon this aspect of contract practice.

DR. G. S. MATHEWS, Providence: The matter is one of education, not only of the younger members of the profession, but of those older. I believe all could be brought to the point of seeing the wrong in the present system.

Medicolegal

Competency of Physicians to Testify as Experts

The Court of Appeals of Maryland says, in United Railways and Electric Co. vs. Corbin, that while great latitude has been allowed in the examination of medical experts, they should not be permitted to express their opinions because they are physicians, but experts must be confined to subjects about which they are, or are presumed to be, acquainted. If a physician does not know more about the effect of a given cause than jurors or other people do, his opinion can be of no service in enabling the jury to reach a proper conclusion. A physician may be a very intelligent man, and may be very well versed in his profession, but that does not make him competent to speak as an expert of things he is not specially acquainted with.

A physician who had been practicing since 1895, being a graduate of a medical college and for six years connected with a hospital, was competent to express his opinion as to the mental condition of a woman whom he attended for four or five days after she received certain injuries and saw her a couple of times later when her condition was such that he called another physician in consultation and advised her to go to the country so as to avoid excitement, but did not see her again until a few days before the trial of the action she brought to recover damages for her injuries.

It can not be doubted that there may be cases in which the opinions of physicians on such subjects may have undue weight. The opinion of a family physician of a juror will naturally have more influence on him than that of some other physician whom he does not know, or does not have the same confidence in, and hence trial courts ought to be careful to see that a physician so called on to testify has either had the opportunity to form a correct opinion from his own knowledge of the person whose mental condition is being inquired into, or that it is based on all the facts in the case reflecting on the subject, which facts the courts should be satisfied are sufficient to enable him to form an intelligent opinion from. The weight of the testimony is for the jury, but its admissibility is for the court to determine.

But the law of Maryland does not require the physician to be an alienist—in the sense that he is a specialist in that line. If such were the law, it would often deprive the jury of such aid as an honest and intelligent physician could give them in reaching a proper conclusion. It would greatly add to the expense of such trials, and would often deprive those of limited means of mental testimony, if no one but a specialist should be permitted to testify.

Again, where a physician had testified that he had had two electric shocks himself, and had had three patients suffering from electric shocks, though the latter were shocks from lightning, and not from electric wires, the court thinks that such experience as he had had, taken in connection with his medical knowledge, was sufficient to justify the court in permitting him to answer the question whether the condition of the plaintiff "was such that might naturally and probably have been produced by an electric shock."

Commissioner of Health Authorized to Correct Name in Record of Births

The First Appellate Division of the Supreme Court of New York says, in the case of People, on the relation of Baker vs. Department of Health of the City of New York, that on the 15th of the month, when a male child was born to the Bakers, the mother stated to the attending physician that she intended to name the baby Edward Young Baker, Jr., and on the 23d day of the same month she reiterated that intention to him; the statement on each occasion having been made in answer to a question put by him. On the latter date the physician made a record of the birth of the child on his registry, and forwarded a certificate thereof to the department of health, and in it stated the name of the child as thus given to him by the mother. The father was not present on either occasion, and he was not consulted by the attending physician with respect to the name of the child. It did not even appear that the mother knew the purpose of the inquiry, or that the physician intended to state the name of the child in the certificate of birth, but it did appear that the mother had not sufficiently recovered from her illness to discuss with her husband the name of her child until some three weeks after his birth, when they decided to name him William Henry Baker, by which name he was baptized and christened. Some two years later another son was born to the same parents, and was named Edward Young Baker, Jr. The court is of the opinion that when the above facts were duly presented to him the commissioner of health was authorized to make correction on the public records of the name of the first child, and that it was his duty to make such correction. Authority is conferred on the commissioner of health to correct the records by Section 1241 of the Greater New York Charter, which provides that no change or alteration shall at any time be made in any of the records in the bureau of records of the said city without proof satisfactory to and on the approval of the commissioner of health.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

July 22

1 *Bearing of the Experimental Investigation of Tumors on the Tumor Problem in General. E. E. Tyzzer, Boston.
2 Primary Carcinoma of the Jejunum and Ileum. H. W. Soper, St. Louis.
3 The Occurrence of Infantile Paralysis in Massachusetts in 1908. (Second Paper.) R. W. Lovett, Boston.
4 An Epidemic of Infantile Paralysis in Western Massachusetts in 1908. H. C. Emerson, Springfield, Mass.

1. **Experimental Investigation of Tumors.**—Tyzzer studied a series of 62 primary tumors in mice, and of these, 37, or about 60 per cent., originated in the lung. The next most frequent type of tumor in his series is the lymphosarcoma, of which there were 10. Only 8 of the 62 tumors were situated externally, and of these 6 were epithelial tumors. There were 4 tumors of the kidney, 2 of which are undoubted hypernephroma. There were ovarian tumors in 2, and a sarcoma in 1 case. Different types of tumors frequently occur in a single animal. Of the 49 animals of this series, 11 presented primary tumors of two types, and 1 primary tumors of four types. In the latter there was a hypernephroma, a lymphosarcoma, a papillary cystadenoma of the lung and an adenocarcinoma of the ovary. About 25 per cent. of these cases, therefore, presented multiple tumors of different types. Multiple primary tumors were probably present in a far greater proportion, for in many cases the lung tumors were multiple and occurred not only in a single lobe but in several lobes.

From this study it is obvious that production of tumors by the experimental inoculation of tumor tissue is brought about by the transplantation of cells rather than by the introduction of a virus. The tumors, therefore, do not develop from the tissues of the inoculated animal, but from the transplanted tumor cells. Peculiar conditions are not essential for the continuation of this growth. Certain tumors grow in normal individuals. Other tumors, however, require a special soil; they grow if transplanted into other parts of the same individual, but not if transplanted to other individuals. Growth is found to depend on the biologic character of the cells and not on their dislocation. The experimental investigations have made untenable the interpretation of cancer as an infectious disease. The development of sarcoma in animals inoculated with epithelial tumors is interpreted by most investigators with whom it has occurred to be the result of the irritating influence of the tumor epithelium.

Medical Record, New York

July 24

5 Scleroma of the Upper Respiratory Tract. J. H. Güntzer, New York.
6 *Brain Arches. W. Wood, New York.
7 *Rare Forms of Cyanosis: Polycythemia, Methemoglobinemia, and Sulphhemoglobinemia. T. W. Clarke, New York.
8 *Secondary Carcinoma of the Lung. L. M. Warfield, Savannah, Ga.
9 Percussion of the Lungs. H. Dayton, New York.

6. **Brain Arches.**—Wood has been working for fourteen years comparing the brains of man and animals to establish the relations of the different parts of the cortex. He believes that he is able to demonstrate that the human cerebrum is composed of four grand rings, or arches, surrounding the limbus or rhinencephalon. All brains are reducible to a single form, but the relations can only be established by comparison of several kinds of animal brains. At the posterior lobe the four rings from below upward are taste, hearing, sight and contact, or centers for tongue, jaws, arms and legs. The marginal gyrus forms arch number one. Number two comprises the second frontal convolution, medicentral lobe, angular gyrus and occiput. Arch number three is the third frontal, infracentral and first and second temporal. The fourth arch comprises the gyrus rectus, insula and third temporal. Diagrams are given to illustrate the subject.

7. **Rare Forms of Cyanosis: Polycythemia, Methemoglobinemia and Sulphhemoglobinemia.**—Clarke states that the immediate cause of cyanosis, not due to cardiac or pulmonary disease, may be in the blood condition, hence the first thing to do in making the diagnosis is to make a blood examina-

tion. There may be an abnormally high red cell content, or polycythemia, generally associated with an enlarged spleen and chronic constipation. Cyanosis may be due to a change in blood pigment; if this is the presence of methemoglobin, the condition may be due to drug poisoning, or autointoxication by the absorption of nitrites from the intestines in chronic diarrhea. If the pigment is sulphhemoglobin, it is probably associated with chronic constipation, and is the result of the absorption of sulphuretted hydrogen from the intestine, or of the presence in the blood of an abnormal reducing agent acting on small traces of sulphuretted hydrogen. These cases improve as enteritis gets better, or as the bowel is kept open.

8. **Secondary Carcinoma of Lung.**—Warfield describes a case of secondary carcinoma of the lung, following a removed cancer of the breast. There was no recurrence in the scar or in the skin of the breast. The metastases in both lungs were widespread, but there was no enlargement of the superficial or mediastinal glands. The most characteristic symptoms were dyspnea, in paroxysms out of proportion to the physical signs, and the scanty sputum. There was little loss of flesh. The physical signs in the lungs pointed to emphysema and chronic bronchitis. Nodules were found throughout both lungs and the liver.

Lancet-Clinic, Cincinnati, O.

July 24

10 Pathology and Treatment of Arteriosclerosis. L. G. Heyn, Cincinnati.
11 Arthritis Deformans. S. E. Earp, Indianapolis.
12 Gallstones. R. J. Jones, Greenfield, Ohio.
13 Uterine Disease—Chronic Endometritis, Endocervicitis. C. S. Ashfield, Cincinnati.

New York Medical Journal

July 24

14 Conditions in the Growth of Tumors. L. Loeb, Philadelphia.
15 *Colles' Fracture: Special Reference to the Lateral Deformity. P. P. Swett, Hartford, Conn.
16 Loose Body vs. Sesamoid Bone in the Outer Head of the Gastrocnemius. E. H. Skinner, Kansas City, Mo.
17 *Teaching of Tropical Medicine Outside of the Tropics. E. R. Stitt, Washington, D. C.
18 Treatment of Diseases of the Intestine in the Greco-Roman Period. C. G. Cumston, Boston.
19 The Human Body Viewed as a Machine. A. B. Judson, New York.
20 Diagnosis of Congenital Syphilis in First Weeks of Life. LeG. Kerr, Brooklyn.
21 *X*-Ray for the General Practitioner. S. McClary, Philadelphia.
22 Cicatricial Stenosis of the Pylorus. H. Weinstein and R. Cronson, New York.

15. **Colles' Fracture.**—Swett emphasizes the fact that typical Colles' fracture presents an anteroposterior and lateral deformity of the lower end of the radius with impaction of the upper into the lower fragment. In severe cases this is complicated by fracture of the ulnar styloid and injury of the ligaments and cartilage. Treatment demands efficient reduction of the bony fragments in the beginning. For this an anesthetic is desirable, because impaction must be broken up to avoid lateral deformity and widening of the wrist. Restoration of the functional and anatomic integrity of the wrist demands immobilization till the bone is united. This period varies from three to five weeks. Protection of the joint must be continued till healing is completed and all of the original traumatic inflammation has subsided. This period is from six to eight weeks when the ligaments are injured and from eight to ten weeks when the cartilage is injured. Gradual return to use favors a perfect result and avoids unnecessary complications and sequelæ.

17. Abstracted in THE JOURNAL, May 8, 1909, p. 1537.

Denver Medical Times and Utah Medical Journal

July

23 Value of Roentgenographic Examination. G. H. Stover, Denver.
24 Modes and Source of Infection in Typhoid. M. A. Robison, Reno, Nev.
25 *Specific Treatment for Typhoid. L. T. Durbin, Denver.
26 A Sequela of Scarlatina. W. C. K. Berlin, Denver.
27 Guaiacol in its Relation to Therapeutics. E. I. Thorn, Salt Lake City.
28 Anatomical and Physical Points Bearing on Hernia. A. J. Hosmer, Salt Lake City.
29 Treatment of Suppurative Peritonitis Following Appendicitis. E. C. Rich, Ogden, Utah.

25. **Treatment of Typhoid.**—Durbin cleanses the gastrointestinal tract by means of calomel and distilled water by mouth and soapsuds enemata and colonic lavage with sterilized water. In severe cases he uses a 1 to 7,000 bichlorid of mercury solution followed at once by plain sterilized water. The irrigations are continued till the temperature falls to normal and remains there. Enemata are continued beyond this period.

Texas State Journal of Medicine, Fort Worth

July

30 Goiter with the Surgical Treatment of Hyperthyroidism. C. H. Mayo, Rochester, Minn.
31 Chorea. M. A. Kelso, Enid, Okla.
32 Proficiency vs. Commercialism. F. L. Barnes, Trinity.
33 History of the Early Meetings of the State Medical Association of Texas. S. O. Young, Galveston.
34 Sterilization of Male Insane. F. E. Daniel, Austin.
35 Ten Cases of Epidemic Meningitis Treated with Flexner's Antimeningitis Serum. J. C. Erwin, McKinney, Tex.

Montreal Medical Journal

July

36 *Empyema and Delayed Resolution in Lobar Pneumonia. T. McCrae, Baltimore.
37 Metastatic Gonorrheal Conjunctivitis: Demonstration of the Gonococcus in Smear and Culture. H. McKee, Montreal.
38 Pathologic Anatomy of Congenital Hip Dislocation. W. G. Turner, Montreal.

36. **Delayed Resolution in Lobar Pneumonia.**—The points specially brought out by McCrae's study of a series of cases of empyema are the following: In the majority of instances empyema may be regarded as a complication of pneumonia rather than a sequel. It occurs relatively much more often in the colored than in the white race. Fever was the only manifestation always present. The physical signs are variable, and it is well to remember that vocal fremitus may be retained, even with a considerable amount of exudate. Of the physical signs, changes in the breath and voice sounds were the most useful single manifestations in diagnosis. The importance of the repeated use of the needle in all doubtful cases is emphasized. The study of this series of cases of delayed resolution suggests that the factors usually considered to be of importance as affecting its occurrence, such as apical involvement, advanced age, debility and cachexia, did not seem to have any influence. As regards age, three-fourths of the patients were between the ages of 17 and 40. The conditions which did seem to affect the incidence especially were (a) color, and (b) involvement of the lower right side. The colored showed a relatively high incidence as compared with the white race. The lower lobe of the right lung was concerned much more frequently than any other, both in the total number of cases and relatively in proportion to the number of cases in which it was involved in the pneumococcic process. The cause of this is obscure, unless it be diminished movement on account of the relationship to the liver. The physical signs show great variation and no general description can be given of them. This applies both to the signs during the continuance of the delayed resolution and during clearing. The diagnosis must frequently offer difficulty, and can often only be made by exclusion of other possibilities. Empyema and tuberculous pneumonia are the conditions which give the greatest trouble. As regards prognosis, while the danger to life is not great, it is never safe to predict absolute restoration in the lung. Permanent change may appear in a short time. The use of the *x*-rays is the most hopeful therapeutic measure, but these must always be used with caution and only after the diagnosis is positive.

Virginia Medical Semi-Monthly, Richmond

July 9

39 Treatment of Consumption. W. H. Coffman, Richmond.
40 Paranoia. J. T. Graham, Wytheville.
41 Scarlet Fever. J. D. Morgan, Washington, D. C.
42 Diagnostic Use of Tuberculin. M. Newton, Richmond.
43 Etiology and Pathology of the Summer Diarrheas of Children. E. P. Tompkins, Roanoke.
44 Placenta Prævia. W. F. Driver, New Market, Pa.

Journal of Ophthalmology and Oto-Laryngology, Chicago

July

45 Smith Operation for Cataract. D. W. Greene, Dayton, Ohio.
46 *Cannula in Lachrymonasal Duct for Twenty-eight Years. H. Worthington, Chicago.
47 Labyrinthine Nystagmus and Labyrinthine Disease. D. McKenzie, London.

46. **Cannula in Lachrymonasal Duct.**—Previous to 1881 the patient had suffered from chronic dacryocystitis, epiphora being the most troublesome symptom. During that year, 1881, he had a cannula inserted into the right lachrymal duct, which re-

mained in place without any attention until removed by Worthington in April, 1909, a period of over twenty-eight years. The patient states that until one year ago he had not the slightest discomfort from the cannula or the epiphora; the latter was practically entirely relieved. But during the past year he has been troubled with the epiphora, which has been getting worse until the past two months, when he has been greatly annoyed by it and wanted the cannula removed. The cannula was removed with little difficulty, and was found to be 1 3/16 inches long and markedly corroded. Material, gold. The openings along the sides were plugged up.

Journal Biological Chemistry, Baltimore

June

48 Mode of Oxidation in the Animal Organism of Phenyl Derivatives of Fatty Acids. Parts IV, V and VI. H. D. Dakin, New York.
49 Nuclein Ferments of Yeast. M. N. Straughn and W. Jones, Baltimore.
50 *Use of the Fermentation Tube in Intestinal Bacteriology. A. I. Kendall, New York.
51 *Metabolism of Man during the Work of Typewriting. T. M. Carpenter and F. G. Benedict, Boston.

50. Fermentation Tube in Intestinal Bacteriology.—Kendall supplements his previous article by considering the explanation of some apparent discrepancies met with in the routine use of fermentation tubes in the study of fecal bacteria. He finds that while the amount of gas produced respectively in dextrose, lactose and saccharose by inoculation with mixed fecal bacteria is about the same under normal conditions, the amount produced in lactose is usually slightly less and sometimes very much less. Lactose, generally speaking, is less readily attacked by the facultative intestinal organisms, introduced from without, than by the normal intestinal bacteria. The amount of gas produced in lactose, is, on the whole, more constant than is the case with either dextrose or saccharose so that broadly speaking the gas volume and the character of the Gram-stained sediments in this carbohydrate are better indices of the relative viability of the obligated intestinal flora than are those of the other two carbohydrates.

A diet rich in protein tends to increase the extent of the intestinal tract occupied by the bacteria of the subtiloid type —(organisms which liquefy gelatin, peptonize casein and do not form gas in carbohydrates, but may produce small quantities of acid in dextrose and saccharose, the action being usually alkalin in lactose) and also causes an increase of aerogenic bacilli, *B. coli*, etc., while the growth of acidophilic bacteria is restricted. In such instances, there is usually a decided augmentation of the gas volume above that characteristic of a mixed diet. A carbohydrate rich diet, on the other hand, results in a limitation of the liquefying bacteria, a more or less marked restriction of the development of the aerogenic forms, accompanied by decided increase in the acidophiles. The gas volume is decreased; the fermentation tube thus enables one to form a conclusion as to the distribution of bacteria in the intestinal tract.

51. Metabolism During Typewriting.—Carpenter and Benedict show that the energy required for the work of writing 1,500 to 1,600 words per hour on the typewriter is very much less than that required for walking along a level road at a rate of 2.7 miles per hour.

University of Pennsylvania Medical Bulletin, Philadelphia

July

52 *Relations of the Stomach to the Total Work of Digestion. A. E. Taylor, San Francisco.
53 Periportal Fibrosis of the Liver in Tuberculosis. R. S. Lavenson and H. T. Karsner, Philadelphia.
54 Intestinal Obstruction Due to Volvulus Through a Traumatic Mesentery Rent. J. B. Carnett, Philadelphia.
55 Variations in the Muscles and Nerves of the Human Body. G. Fetterolf, Philadelphia.
56 Is Arsenic Given off in Gaseous Combinations when Putrefactive Changes Occur in Tissues Derived from Animals Poisoned with Arsenic? J. Marshall and L. A. Ryan, Philadelphia.

52. Relations of Stomach to Digestion.—Taylor believes that the important functions of the stomach, physiologically and pathologically, are the motor functions; the lesser functions of the stomach, physiologically and pathologically, are the chemical or digestive functions. There is a striking zoölogic analogy in this. Despite the other differences in the acts of digestion in the carnivora, the omnivora and the ruminants, it is clear that in all, zoölogically and biologically the chief function of the stomach is to provide a repository for food, whereby the needs of the animal may be satisfied through infrequent feedings; to prepare the food for the work of intestinal digestion; and to deliver the food to the intestine in such a manner as to conform to its best utilization by the intestine. It would, of course, be going entirely too far to say, as has been said by several ultramodern surgeons, that the stomach is so dispensable an organ that it may be disregarded. Nevertheless, it is true that a balanced review of the total functions of the viscus leads us to a proper appreciation of its motor functions and to a proper limitation of the scope assigned to its chemical or digestive functions.

Colorado Medicine, Denver

July

57 Cancer of the Pancreas: Report of a Case. C. B. Van Zandt, Denver.
58 Latent Pelvic Infections. C. B. Dyde, Greeley.
59 Appendicitis. C. H. Graves, Canon City.
60 Differential Diagnosis Between Appendicitis and Pelvic Disease. W. F. Church, Greeley.

New Orleans Medical and Surgical Journal

July

61 *Serum Diagnosis of Typhoid. H. P. Brown, Brierfield, Va., and J. H. Kinter, Philadelphia.
62 Treatment of Tuberculous Laryngitis. R. B. Homan, El Paso, Tex.
63 Physiologic Action of High Frequency Currents. A. Henriques, New Orleans.
64 Case of Sialolithiasis. A. Jacoby, New Orleans.
65 Ureterovaginal Fistula, a Sequel of Panhysterectomy; Wertheim's Operation for Carcinoma of Uterus; Cured by Ureterocystotomy. W. Kohlmann, New Orleans.
66 Acute Diverticulitis of the Large Intestine. C. J. Miller, New Orleans.
67 Typhoid, Running an Intermittent Temperature. E. Kiblinger and A. Kiblinger, Alexandria, La.
68 *Two Cases of Ludwig's Angina with Bacteriologic Findings in One. E. M. Williams, Patterson, La.
69 Musculospiral Paralysis Resulting from a Syphilitic Periostitis of the Humerus. R. M. Van Wart, New Orleans.
70 Two Cases of Pellagra. J. N. Thomas, Pineville, La.

61. Serum Diagnosis of Typhoid.—Brown and Kinter examined 252 consecutive cases of every description admitted to the Policlinic Hospital during a period of three months for the purpose of determining the value of the serum test for typhoid. The results of this examination are as follows: Cases of acute infection of typhoid type in which the reaction was positive, sixteen. Cases of acute infection of typhoid type in which the reaction was negative or questionable, seven. Cases in which there was no suspicion of typhoid in which the reaction was negative, two hundred and fifteen. Cases in which there was no clinical evidence of typhoid in which the reaction was positive, fourteen.

From this study the authors conclude, first, that a positive agglutination test with *Bacillus typhosus* indicates that the patient from whom the blood serum was taken has typhoid or has had typhoid within a comparatively recent period. Second, in the absence of a positive agglutination test the symptoms are due to some other infection which should be diligently sought for. In some cases it is possible that the agglutinins have not yet developed in sufficient quantity in the patient's blood to give a reaction in a dilution of one in forty. Subsequent tests would clear up this point. Third, the persistent absence of the reaction even in the presence of clinical symptoms of typhoid would justify a positive opinion that the disease was not typhoid. The most common infections which give a clinical picture of typhoid are miliary tuberculosis and paratyphoid fever. No case of the latter infection was encountered in the two hundred and fifty-two cases.

68. Bacteriology of Ludwig's Angina.—Microscopic examination of a smear of the pus taken from Williams' case showed streptococci in large number, associated with bacteria closely resembling the colon bacillus, the latter probably accounting for the distinctly fecal odor of the pus.

Yale Medical Journal, New Haven, Conn.

June

71 Cardiac Arrhythmia. W. R. Steiner, Hartford, Conn.
72 Foreign Bodies in the Vitreous and Interior of Eye in General. E. T. Smith, Hartford, Conn.
73 Fibroid Tumors of Uterus. P. H. Ingalls, Hartford, Conn.

American Journal of Surgery, New York

July

74 *Contribution to Intestinal Surgery. Aseptic Intestinal Anastomosis (Enteroenterostomy and Gastroenterostomy). V. Pleth and V. W. Pleth, Guadalajara, Mexico.

75 Ochsner Treatment of Appendicitis. J. U. Barnhill, Columbus, Ohio.
76 Orbital Route to Accessory Sinuses. P. Fridenberg, New York.
77 Trophic Joint Diseases. M. A. Austin, Indianapolis.
78 Esophageal Carcinoma. W. P. Lang, New Haven, Conn.
79 *Colles' Fracture. J. W. Andrews, Mankato, Minn.
80 *Indications for Obliterative in Contradistinction to Reconstructive Endoaneurismorrhaphy. W. J. Frick, Kansas City, Mo.

74. **Aseptic Intestinal Anastomosis.**—The gut-arms (or parts) to be united are laid side by side and approximated near their mesenteric borders by a continuous linen thread suture, passing through only the serosa, for a distance of 6 to 7 cm. This the authors term the "first posterior suture" and black thread may be employed for this. A second continuous suture is applied parallel with the first one and very close to it; large grasps of the intestinal wall are taken up so as to effectually compress the vessels; this they term the "second posterior suture" and it may be of white thread.

An ordinary long steel knitting needle is passed into the lumen of one limb of the gut and out again at the desired distance, the knitting needle being parallel with the "posterior sutures" and about 1 cm. from them; the distance between the points of entrance and exit of the needle being less than the length of the "posterior sutures." The same procedure is repeated on the other limb of gut to be anastomosed. The needles are now brought close together and held securely. A long narrow-bladed forceps is placed beneath the needles and, compressing the opposed portions of the intestines, is securely locked. A Paquelin cautery burns away that portion of the intestine, which "bridges" over the needles. Burn until the needles are released.

The "second posterior suture" (white thread) is now continued around in front until it reaches the starting point; this is the "first anterior suture." The handle of the compressing forceps should always be placed at the starting point of the intestinal suture. The compressing forceps are now gently removed and the free ends of the "second suture" are tied together. The "first posterior suture" is now continued around in front until it reaches its starting point, when the free ends are tied together; this is the "second anterior suture."

79. Abstracted in THE JOURNAL, Jan. 30, 1909, p. 415.

80. Abstracted in THE JOURNAL, Jan. 9, 1909, p. 159.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

July

81 Goiter in the Mother and its Manifestations in the Offspring. G. Schmauch, Chicago.
82 Involuntary Muscle Fibers of the Pelvic Floor. W. E. Studdiford, New York.
83 *Dry Heat as a Therapeutic Factor in Gynecology. G. Gellhorn, St. Louis.
84 *Large Polycystic Kidney. J. W. Bovée, Washington, D. C.
85 Etiology and Pathology of Bilateral Polycystic Degeneration of the Kidneys. J. S. Neate, Washington, D. C.
86 Sudden Death Following Spinal Anesthesia. C. B. Reynolds, Philadelphia.
87 *Adhesion of the Placenta. W. R. Wilson, Philadelphia.
88 The Uterine Tampon in Postpartum Hemorrhage. T. J. Crowe, Dallas, Tex.
89 How Far is So-Called Conservative Pelvic Surgery Conservative? J. T. Kelly, Washington, D. C.
90 *Pubiotomy. C. B. Reed, Chicago.
91 Facts Regarding Brooklyn's Summer Infant Mortality. L. C. Ager, Brooklyn.
92 Predisposing Causes and Prevention of Summer Diarrhea. J. W. Parrish, Brooklyn.
93 Hygienic and Dietetic Treatment of Summer Diarrhea. LeG. Kerr, Brooklyn.
94 Medicinal and Mechanical Treatment of Summer Diarrhea. A. D. Smith, Brooklyn.

83. **Dry Heat in Gynecology.**—Gellhorn says that the employment of hot-air boxes or chambers is invaluable in the treatment of chronic exudates, irrespective of their location in the parametric tissues or in the pelvic peritoneum. The results obtained with hot-air in this affection can not be approached by any other method. The prompt objective improvement is intensified by an almost instantaneous relief from pain. The hot-air therapy has also been very promising in the treatment of certain menstrual disorders, notably amenorrhea. Furthermore, hot-air treatments have been found exceedingly useful in a number of conditions arising after operations, such as infiltration of the incision, postoperative fistulæ, paralysis of the intestines, etc. With growing experience, the sphere of usefulness for this new mode of treatment is likely to extend still further. As its application is quite simple, it is equally suited to hospital or private practice.

84. **Large Polycystic Kidney.**—According to Bovée the treatment of this condition is non-surgical, except in two conditions: 1. When the disease is unilateral or reasonably concluded to be so, and 2, when the cysts are so large as to be burdensome in any way. In the former, incision or possibly nephrectomy is advisable. If the ureter or other part of the purely waste-bearing portion of the corresponding half of the urinary tract is hopelessly obstructed beyond a period of six weeks, the function of the corresponding kidney will be permanently suspended and nephrectomy is preferable to incision or multiple incisions. But if urine is found to be pouring from both ureters, then nephrectomy should not be done, save in the very exceptional unilateral polycystic kidney. When it is at all apparent that the presence of the disease in one kidney had a tendency to stimulation of its development in the other kidney, Bovée would feel less positive in this matter. In the second condition puncture or incision seems applicable whether the disease be unilateral or bilateral. If cystoscopy reveals both ureters to be functionating, then, even though but one kidney is involved, nephrectomy should not be performed, except in the rarest circumstances—such as hemorrhage limited to the affected side.

87. **Adhesion of Placenta.**—It is Wilson's belief, first, that adhesion of the placenta occurs through overgrowth of the fetal portion from the necessity in some instances of securing the proper source of nutriment; second, in a practical sense, that the presence of complete adhesion should be suspected in cases in which in the third stages of labor efforts at expression fail, especially in the absence of bleeding.

90. **Pubiotomy.**—Reed believes that pubiotomy commends itself to the general practitioner because: 1. It is a desirable method of securing the delivery of 75 per cent. of his contracted pelvis cases, with best results for mother and child. 2. The cases of difficult version and extraction and difficult forceps will be reduced to a minimum, or if done will be done under the most favorable conditions. 3. The technic of the operation is simple and easily acquired. 4. The dangers are few and mostly to be avoided by any one with moderate surgical training and conscience. 5. The operation can be done in a very few minutes. 6. The labor is made easier and the chances for a living child are greatly improved. 7. It can be done in the home of the patient. 8. Only a very small armamentarium is required. 9. In many cases the pelvis is permanently enlarged, so that a subsequent labor may be normal.

Iowa Medical Journal

July 15

95 *Local Anesthesia in Hernia. A. C. Stokes, Omaha, Neb.
96 Infections Complicating Labor from a Clinical Viewpoint—Treatment. H. G. Welpton, Des Moines.
97 Unusual Skin Infections. W. F. Waugh, Chicago.

95. **Local Anesthesia in Hernia.**—Stokes uses the novocain and adrenin solution of Braun. The patient is given 1-4 gr. of morphin and 1-100 of hyoscin one hour before the operation is to begin. After arriving at the operating room the field of operation is prepared, as usual, and the local anesthetic is injected along the proposed line of incision and endodermically catching as many nerve endings as possible. Incision is then made through the skin and deep fascia to the aponeurosis of the external oblique. The external ring is laid bare and the area about it is anesthetized. Search is made for the hypogastric branch of the ilio-hypogastric, which makes its exit about three-quarters of an inch inward and one inch upward from the inner and upper angle of the external ring. Having found this nerve, it is blocked at its exit from the aponeurosis of the external oblique. It may be necessary to use a slight amount of the anesthetic in the aponeurosis of the external oblique, after which the aponeurosis is cut according to an approved method and separated from the internal oblique, and the ilio-inguinal nerve is seen to make its exit from the internal oblique a short distance above the border of the internal abdominal ring. This nerve is now loosened, and one may either dissect it out in its passage

down the inguinal canal to the external ring in front of the cord, or if time is an element, the nerve may be blocked at its exit and the operation continued. If it is dissected out it may be laid aside and the operation continued without blocking. This method is the most scientific but also the most tedious. The ilio-inguinal traverses the inguinal canal and makes its exit at the external ring where it supplies the integument over this area and a part of the scrotum.

The third and last nerve to be dealt with is the genital branch of the genitocrural. This nerve is often difficult to find, but the discovery of the same and the blocking of it is the most necessary part of the operation for the hernia. When this is done the dissection of the sac and the removal of the same is accomplished without much pain, and without disturbing the patient in any way. Occasionally it has been necessary to infiltrate the neck of the sac before removing same.

Stokes recommends that Braun's original solution be somewhat changed, i. e., that a larger per cent. of novocain be used, i. e., up to about 2 per cent. The anesthesia is more perfect and lasting. His experience with these cases has so far been very gratifying, and he is now recommending local anesthesia in nearly every hernia case.

Medical Fortnightly, St. Louis

July 10

98 Infant Morbidity and Infants' Milk Depots. I. S. Wile, New York City.
99 Some Reasons for Believing in and Encouraging Brain Surgery. C. D. Center, Quincy, Ill.
100 Surgical Treatment of Tubal Inflammation and Pelvic Abscess. C. R. Dudley, Hannibal, Mo.

American Journal of Physiology, Boston

July

101 *Can Functional Union be Re-established between the Mammalian Auricles and Ventricles after Destruction of a Segment of the Auriculoventricular Bundle? J. Erlanger, Madison, Wis.
102 Pseudofatigue of the Spinal Cord. F. S. Lee and S. Everingham, New York.
103 Innervation of the Coronary Vessels. C. J. Wiggers, Ann Arbor, Mich.
104 *Coagulation of Blood. L. J. Rettger, Baltimore.

101. **Re-establishment of Functional Union Between Auricle and Ventricle.**—Erlanger concludes: 1. That functional union can not be re-established between two parts of the heart whose functional continuity has been completely severed by thorough destruction of the connecting heart tissue. There is not the slightest hope of relieving heart block thus caused either by surgical interference or by the operation of natural regenerative processes. 2. That the cardiac excitation wave is not conducted through the auricle by the nerve trunk located in its tissue. 3. That the cardiac impulse is conducted through muscle fibers rather than through nerve fibers.

104. **Coagulation of the Blood.**—Current theories of the coagulation of the blood generally assume that it is a process of fermentation. Rettger concludes from his investigation that the coagulation of blood is probably not a fermentative process. It is usually understood that ferments act in the manner of a catalytic, and that they are thermolabile. The coagulation of blood, on the contrary, is, in the first place, clearly a quantitative reaction, and is probably, as stated by Nolf, a mutual precipitation of two colloids, fibrinogen and thrombin. The partial clots which never proceed farther, the successive clots which may be formed by successive additions of definite amounts of thrombin, and the approximate equality in amount between the sum of these successive clots and a maximum initial clot, indicate a definite quantitative proportionality. Careful quantitative weighings of the fibrin formed showed such a direct proportionality between fibrinogen and thrombin as would be required in a definite chemical combination of two substances. The further resistance of the thrombin in aqueous solution relatively free from dissolved proteins to boiling temperatures is a property not usual with the ordinary catalytic ferments. The recovery of thrombin from protein solutions, such as serum, which have become inactive on standing, or by being heated to 60 C., points toward the same conclusion. Such a recovery, whether by activation with alkali or acid or by putrefactive changes, is believed to depend on the dissociation of the combination of thrombin with some protein other than fibrinogen. In a similar way, the partial recovery of thrombin from fibrin, according to Gamgee's method, is more than the solution of mechanically absorbed amounts. The three main reasons given by Schmidt originally as proofs of the truly fermentative nature of his ferment are as follows: (a) Minimal amounts of "fibrin-ferment" will produce a complete coagulation. (b) The artificial serum contains after coagulation unused ferment with which several successive clots may be produced. (c) The ferment is destroyed at 100 C.

The first point has been shown to be incorrect. Minimal amounts produce correspondingly small clots. The quantitative relationship holds with all submaximal amounts of thrombin added to a fibrinogen solution if a submaximal amount has been added. If the clots are removed after four to twenty-four hours, the remaining fibrinogen solution remains fluid, but clots promptly form again on addition of further amounts of thrombin. The probabilities are therefore that the action of the thrombin is in no way that of an ordinary catalytic agent, but that the formation of the fibrinogen is essentially the mutual precipitation of two colloids from the plasma. The existence of a proferment or thrombogen or of kinase or coagulins is improbable.

The active coagulating agent is thrombin, whose properties and reactions were the chief questions of inquiry in this work. It is derived from the formed elements, in all probability, at the moment of their rapid disintegration when placed under abnormal conditions. In this pro-stage it is inactive in the blood. To become an active precipitating agent it is believed that minimal amounts of calcium salts enter chemically into the molecular complex.

The action of oxalates and fluorids in preventing coagulation is primarily the same. Both salts act by removing the calcium. In the oxalated plasma the free calcium is definitely precipitated; in the fluorid plasma the free calcium remains bound in solution. Dialysis or extreme dilution breaks the loose connection and thrombin results. Excess of calcium salts clots oxalated solutions at once. Excess of calcium salts of sufficient concentration clots fluorid plasmas, after the fluorid-calcium-protein combination is precipitated by this method. In both plasmas great excess of calcium salts inhibits and finally prevents coagulation, although it would seem that fluorid plasma is in this respect more readily inhibited than the oxalate plasma—a difference which may result from the formation of the heavy precipitate in the fluorid blood.

Quarterly Bulletin Northwestern Medical School, Chicago

June

105 *"Trachoma Bodies" Possibly the Etiologic Factor of Trachoma. B. Pusey, Chicago.
106 *Communicability of Vincent's Angina. W. H. Buhlig, Chicago.
107 Anomalous Insertion of the Pectoralis Major. H. M. Richter, Chicago.
108 *Fracture of Acetabulum with Displacement of Femoral Head into the Pelvic Cavity. W. E. Schroeder, Chicago.
109 Comparative Histology of Tonsillar Tissues. F. Menge, Chicago.
110 Clinical and Physiologic Aspects of Rupture of Chyle Duct. W. S. Hall and W. E. Morgan, Chicago.
111 Treatment of Nasal Hemorrhage. C. B. Younger, Chicago.
112 Paget's Disease of the Nipple and Areola Treated with *X*-Rays. F. E. Simpson, Chicago.
113 Food Disorders in Infancy. F. X. Walls, Chicago.
114 Indications for Operation on the Thyroid Gland. H. M. Richter, Chicago.
115 The Cammidge Reaction in the Urine. W. H. Buhlig, Chicago.

105. **Trachoma.**—Pusey reports the finding, in a case of his own, of Halberstædter and Prowazek's "trachoma bodies" in smears stained with Giemsa's stain, taken on the third day of invasion. Many attempts at cultivation failed. These bodies are found in acute trachoma at the beginning of the disease, and are not found in conjunctivæ other than in cases of trachoma.

106. **Vincent's Angina.**—Buhlig reviews a number of cases of Vincent's angina, and concludes that it is necessary to believe that the condition is communicable within narrow limits. He calls attention to the purse-string tobacco bag frequently passed from one to another, the string being drawn tight by the teeth, as a possible medium of infection.

108. **Fracture of Acetabulum.**—Schroeder discusses this question on the basis of 49 collected cases, the last three being

his own. He suggests that in cases where there is any question as to the seriousness and extent of the injury, an exploratory operation should be made through Poupart's ligament. This will allow ample space for the repair of the injured structures and viscera commonly associated with this serious accident.

St. Paul Medical Journal

July

116 Vaccine Therapy in Genitourinary Diseases. H. L. Ulrich. Minneapolis.
117 Acute Diffuse Edema of the Lungs. G. Cross, Minneapolis.
118 Fused (Horseshoe) Kidney. B. Robinson, Chicago.
119 Expert Testimony as Seen and Rendered in South Dakota, with Suggestions of what is Needed. E. Klaveness, Sioux Falls, S. D.
120 Puerperal Eclampsia. F. Leavitt, St. Paul.
121 Forceps, Their Use and Abuse. H. T. Nippert, St. Paul.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

July 19

1 Unilateral Optic Neuritis from Intracranial Tumor. Sir W. R. Gowers.
2 Ionic Medication in Treatment of Obstinate Cases of Pelvic Diseases in Women. S. Sloan.
3. *Spontaneous Cure of Thoracic Aneurism. H. S. French.
4 *Treatment of Gonococcus Infections by Vaccines. J. W. H. Eyre and B. H. Stewart.
5 Delayed Chloroform Poisoning. T. C. Somerville.
6 Splenectomy for Injury. J. C. Renton.
7 Goiter. H. N. Crowe.
8 Modified Plan for Preparation of Chromic Catgut. C. H. Christal
9 A Medicolegal Case. W. H. Haw.

3. **Spontaneous Cure of Thoracic Aneurism.**—French performed a necropsy on a woman, aged 74, who came under observation nine hours before her death suffering from acute dyspnea associated with râles and rhonci all over both lungs, and yet with so little available history that a precise diagnosis could not be made. She died apparently from acute edema of the lungs, and at the postmortem examination it was found that she had typical granular kidneys, adherent pericardium, and a healed thoracic aneurism. It is difficult to say for certain whether the aneurism itself accelerated death, but had there been no aneurism at all one would have been content, from the postmortem appearances, to diagnose acute edema of the lungs the result of atrophic red granular kidneys. The distance between the aortic valves and the orifice of the innominate artery was stretched and lengthened so as to measure six inches, and in the middle of this, on the right side three inches above the aortic valves, was a brown opening less in diameter than a sixpenny piece (10-cent piece), with calcareous edges, through which the finger-tip could just be inserted, to come into immediate contact with a hard material which was found to be firm, laminated and extensively organized contents of a saccular aneurism, which looked nearly the size of a tennis ball and was spherical and approximately three inches in diameter. This aneurism, except quite close to its aortic orifice was entirely filled with hard, laminated, fibrosed clot, which was everywhere adherent to the wall of the sac and so hard that it could not be broken down by the fingers; nor could the fingers be pushed between it and the wall of the aneurism. The contents of the sac came right up to the level of the wall of the aorta, so that the aneurism could truly be said to have been spontaneously healed.

4. **Gonococcus Infections and Vaccines.**—Eyre and Stewart made an unusually careful clinical study of the value of the vaccine treatment in 53 cases of gonorrhea of varying grades of severity. They found that in acute gonorrhea the gonococcus vaccine is markedly toxic and exerts a profound influence over the disease. For routine work (hospital outpatients, etc.), vaccine treatment is not devoid of danger and requires the exercise of considerable caution. A stock vaccine, comprising a dozen different strains, gives results only slightly inferior to those observed when using a vaccine prepared from the patient's own organism. This is not the rule in most other diseases. Small doses, repeated at short intervals, are more effective than large doses at lengthened intervals. Small doses of vaccine (from 1,000,000 to 10,000,000) are safer and more satisfactory than the large doses (from 50,000,000 to 100,000,000) which are often prescribed. After an injection of from 500,000 to 2,000,000 the negative phase is either absent or extremely transient. An inoculation of from 5,000,000 to 10,000,000 causes a negative phase of usually not longer than 48 hours' duration, followed by a positive phase of from three to five days. Vaccines in small doses serve the double purpose of raising and steadying the opsonic index. A steady index just above the normal is found to be the most favorable condition for rapid recovery. In simple chronic gonorrhea in which the gonococcus has ceased to be the infecting organism these cases are on a par with other chronic inflammatory states, but are frequently more difficult to cure owing to environment and local conditions. Chronic cases in which the gonococcus is the sole infecting organism have a better prognosis from the point of view of treatment by vaccine than a mixed infection or one of staphylococcus only. In chronic gonorrhea with complications, the estimation of the opsonic index is helpful to diagnosis and is a useful means of determining approximately the opsonic state of the blood. Chronic gonococcus infections, however, present clinical features which themselves afford valuable indications during the course of vaccine treatment. When the gonococcus alone is the infecting organism, if the opsonic index can not be obtained so frequently as is desirable, routine injections of from 1,000,000 to 2,000,000 doses every three to five days are safe and satisfactory; a lapse of five to seven days after doses of 5,000,000; an interval of eight to ten days after inoculation of 10,000,000. Larger doses than these are seldom desirable. Treatment by small and gradually increasing doses at frequent intervals should at all times be observed; the use of large doses is even more dangerous than in acute cases, and may be followed by disastrous consequences. In orchitis, small doses of vaccine quickly relieve pain and cause a more rapid abatement of symptoms than obtains by the usual routine treatment alone. In iritis the severe pain, which is a marked and obstinate feature, is relieved in 48 hours after an injection, and disappears in from three to four days; cure is much hastened. In arthritis the treatment is of considerable value.

British Medical Journal, London

July 19

10 *Treatment of Chronic Degenerative Lesions of the Heart and Aorta. Sir J. Barr.
11 Blood Pressure in Man. Sir L. Brunton.
12 Diagnosis and Operative Treatment of Chronic Gastric and Duodenal Ulcer. D. Drummond and R. Morison.
13 Pain in Mucous Colitis and in Irritable States of the Colon in General. T. S. Wilson.
14 Intussusception Accompanied by Polypus and Stricture. R. V. de A. Redwood.
15 Impaction of Gallstone in Small Intestine; Laparotomy; Recovery. H. Ross.
16 Empyemata Associated with the Bacillus Coli Communis; Treatment by Antitoxin. J. S. Pearson.
17 Quinin in Syphilis. H. C. French.

10. **Chronic Gastric and Duodenal Ulcer.**—Drummond and Morison emphasize the necessity and value of cooperation between physicians and surgeons in the effectual handling of these cases. During three and a half years they saw 123 cases, in which a diagnosis of chronic gastric and duodenal ulcer was made which were treated by gastroenterostomy. Of these cases, 72 were gastric, 28 were duodenal, and 23 were not classified. Of the total number of patients on whom gastroenterostomy was performed, 118 recovered, and 5 died. In several of these other operations in addition to gastroenterostomy were done at the same time.

Gastric Ulcers.—The cases numbered 14, all in women; 8 of these report themselves as perfectly cured at periods of from 4 years to 18 months since the operation. Two are very much improved, but still have some symptoms. One of these, operated on twenty months ago, has no vomiting now, and only occasional gastric discomfort, but has had two attacks of melena. She had an ulcer on the lesser curvature of the stomach. The other, operated on two years and ten months ago, has to be careful of what she eats. Three can not be traced. One patient died.

Ulcers of the Pylorus.—These presented symptoms of active ulcer but without stenosis. There were 16 cases, 10 men and 6 women; 12 have been traced, and of these 10 are com-

pletely cured. 2 still have some symptoms but are greatly improved; 4 can not be traced.

Cicatricial Stricture of the Pylorus (the result of ulceration.)—There were 36 cases, 20 men and 16 women; of these 3 can not be traced, 29 report themselves quite cured, 2 report that they are no better.

Hour-Glass Contraction of the Stomach.—There were 6 cases, 5 women and 1 man. Five report themselves cured; 1 states that she is greatly improved, but still has occasional pain after food. In 4 of these cases on account of the amount of contraction present, gastroplasty was performed in addition to gastroenterostomy; 1 had cholecystotomy (for gallstones), gastroplasty, and gastroenterostomy. Of these 4, 3 are cured. The fourth is the patient who reports improvement.

Duodenal Ulcers.—There were 28 cases, 25 men, 3 women. Five of these had stenosis of the duodenum, in addition to active ulceration; 20 report themselves perfectly cured, able to take any kind of solid or liquid food without trouble, and in good health. One patient, a man, aged 36, had gastroenterostomy performed in 1904 for duodenal ulcer. He remained well until 1906 when his symptoms recurred, and an operation was done for occlusion of his pylorus. He remained well, so far as his digestive system was concerned, but died in July, 1908, of phthisis pulmonalis. Two report themselves improved, but still have stomach symptoms; 1 of these was operated on only a year ago, and still continues to improve, his old symptoms though present, being less marked. In the other, on looking up the notes, the only evidence of organic mischief was adhesions round the first part of the duodenum, but no ulcer could be felt from the inside. One is not improved; 2 died.

Various.—There were 23 patients under this heading: 3 had both gastric and duodenal ulcers. Posterior gastroenterostomy was performed in all. They are all now quite well. Three patients were operated on, but no certain evidence of ulcer was obtainable. Seven had a tumor at the pylorus which was thought to be an inflammatory mass round an ulcerated area. Of the 7, 4 can not be traced (suggestive of malignant disease and death). In 2 cases stricture of the jejunum, one tuberculous, one malignant, less than a foot from its origin, led to stomach dilatation, and caused pain and vomiting. They were mistaken for gastric ulcers and operated on by posterior gastroenterostomy, the junction being effected beyond the stricture. Both recovered. In 6 cases other conditions—cirrhosis of the liver in 1, pancreatic disease in 1, neurasthenia in 4—existed as complications, and the remote results following operation on the stomach have been unsatisfactory, for none of them is materially benefited.

Medical Press and Circular, London

June 30

18 Clinical Examination of Spinal Cases. J. J. Clarke.
19 Dilatations of the Female Urethra. R. D. Purefoy.
20 Roentgen Rays in Diseases of the Stomach. V. Schmieden.
21 Prevention and Treatment of Dysentery. W. J. Buchanan.

Clinical Journal, London

June 30

22 Interpretation of a Temperature Chart. N. Moore.
23 Natural History of Cancer of the Uterus. J. Bland-Sutton.
24 *Treatment and Prognosis of Cases of High Arterial Blood Pressure. O. K. Williamson.

24. **High Arterial Blood Pressure.**—Of 17 patients showing a blood-pressure upward of 200 mm. which first came under Williamson's observation in 1906 and 1907 he has been able to follow up 13, of whom 8 have died and 5 are still living (February, 1909). Two of the patients died from cerebral hemorrhage, 3 as the result of chronic interstitial nephritis, one from "heart trouble" (this patient had aortic incompetence), and 2 from unknown causes. Moreover, the longest interval between the date of first observation and that of the death of any of these 8 patients was a year and a quarter.

Practitioner, London

July

25 The Dietary for Goutily-Disposed Persons. Sir D. Duckworth.
26 *Treatment of Uric Acid. J. F. Goodhart.
27 Treatment of Gout in Its Various Forms. A. P. Luff.
28 Relation of Gout to Granular Kidney and to Lead Poisoning. S. West.
29 Cardiovascular Manifestations of Gout. P. Kidd.
30 *Gout in Relation to Disease of the Nervous System. J. Taylor.
31 Cutaneous Manifestations of Gout and their Treatment. J. Galloway.
32 Balneologic Treatment of Gout with Special Reference to Bath. G. A. Bannatyne.
33 Balneologic Treatment of Gout. W. R. Gore.
34 Balneologic Treatment of Gout at the Continental Spas. S. Rendall.
35 Changes in the Joints in Gout. C. G. Watson.
36 Metabolism of Nucleins in Gout. I. W. Hall.
37 Gouty Throat. J. E. McCracken.
38 Recent Literature of Gout. A. W. Sikes.

26. **Treatment of Uric Acid.**—Goodhart claims that all the uric acid solvents, so much vaunted, appear to be equally useless for that special purpose, but salines have their value, if given with discrimination, for facilitating the excreting power of the several abdominal glands. And in this way water is probably one of the best remedies, but even water drinking, if excessive, is not to be indulged in with impunity, for Goodhart says he is by no means prepared to assent to what appears to be the popular belief that water being harmless, it matters not what amount is imbibed in the 24 hours. In his opinion, the late Sir William Robert's simple prescription of half a dram of bicarbonate of potash in a tumbler of water at bedtime, to stem the nightly acid tide, is on the whole, one of the most useful recommendations, apart from tonics, cures at watering-places, and change of scene and air.

30. **Gout in Relation to Disease of Nervous System.**—Taylor believes that the relations of gout to diseases of the nervous system are, for the most part, indirect. An acute attack of gout may be ushered in or accompanied or succeeded by grave nervous disturbances—even acute maniacal disorder—but this is not common. Severe neuralgic pains, in parts other than that acutely inflamed, and considerable irritability or depression, may be present during an attack of gout, but no grave structural alteration in the nervous system is to be apprehended as an immediate concomitant or effect of the seizure. Yet it can not be denied that manifestations of nervous disorder, frequently of considerable importance, tend to occur in gouty persons, and many such diseases are directly or indirectly the result of the gouty state.

Glasgow Medical Journal

July

39 Shakespere Doctors. W. Findlay.
40 Pathology and Treatment of Atrophic Rhinitis. J. Adam.
41 Study of Some Schools and School Children in Glasgow. D. McKail.

Journal of Laryngology, Rhinology and Otology, London

July

42 *Fourteen Cases of Intracranial Disease Complicating Middle-Ear Suppuration. A. L. Turner.
43 Modifications Introduced into Bronchoesophagoscopic Instrumentation as the Results of Experience. Dr. Guisez.

42. **Intracranial Disease Complicating Middle-Ear Suppuration.**—Turner reports fourteen cases in all of which an operation was done. The diagnosis of leptomeningitis was not regarded as a contraindication to operative intervention, as it was considered right to remove the primary focus of infection in the middle ear cleft, and by the repeated lumbar puncture to remove so far as possible the infected cerebrospinal fluid. Of the fourteen patients, four recovered and ten died. The four successful results were obtained in uncomplicated cases of sigmoid sinus thrombosis, two patients complaining of acute and two of chronic middle ear suppuration. A patient with uncomplicated cerebellar abscess survived for two and one-half months after operation, but at the end of that time died from meningitis. If the eight patients with leptomeningitis be deducted from the total, we have 6 without meningitis, of whom 4 recovered and two died, the two fatalities being the case of cerebellar abscess just referred to, and a second case of cerebellar abscess with sinus thrombosis. In the latter case death resulted from septic encephalitis in connection with the cerebellar wound; obliteration of the sinus followed the operation, and no further trouble was experienced with it. The cases of sinus thrombosis were the most satisfactory to deal with. In all of them the internal jugular vein was divided between the two ligatures as a routine practice, and the upper part of the vein and jugular bulb syringed out; thorough removal of the clot from the upper part of the sinus was recognized by the free bleeding which occurred

Annales de Gynécologie et d'Obstétrique, Paris

June, XXXVI, No. 6, pp. 321-384

44 Electricity in Gynecology. Indications and Technic. A. Zimmern.

45 Primary Cancers of Greater Omentum. (Tumeurs malignes primitives du grand épiploon.) L. Litchkous.

Annales de Médecine et Chirurgie Infantiles, Paris

June 15, XIII, No. 12, pp. 397-432

46 Pulmonary Tuberculosis with Cavities in Children. (Tuberculose pulmonaire caverneuse chez l'enfant.) E. Gaujoux and Brunel.

Grèce Médicale, Syra, Greece

XI, Nos. 1-3, pp. 1-4. Last indexed July 17, p. 241

47 Hemoglobinuric Fever of Chemical not of Direct Parasitic Origin. (La fièvre hémosphérinurique est-elle palustre?) J. Foustanos.

Presse Médicale, Paris

June 30, XVII, No. 52, pp. 465-472

48 Infantile Paralysis of the Muscles of the Foot. Treatment by Partial Arthrodesis. C. Ducroquet and P. Launay.

July 3, No. 53, pp. 473-480

49 Infection of the Blood by Bacteria from the Intestines. (Infection du sang par les bactéries de l'intestin.) Garnier and L.-G. Simon.

50 *Disinfection of Books. (Désinfection de livres.) P. Desfosses.

July 7, No. 54, pp. 481-488

51 *Vomiting from Chloroform. (Vomissements chloroformiques.) P. Blanluet.

50. **Disinfection of Books.**—The introduction of the Marsoulan system seems to have solved the problem of a simple, effectual method of disinfecting books without injury. According to the description given by Desfosses, the books are automatically beaten and the dust and air are constantly aspirated by a vacuum tube. After this the books are suspended by a clip holding the covers of each book, opened backward, and the frame containing the horizontal tiers of books is run into an oven where they are subjected to heat and the fumes of formaldehyd. This method is said not to harm the paper or bindings, while it is inexpensive, practical and sufficiently effectual to answer the desired purpose for circulating libraries and for school books. [An illustrated description of the same process is given in the *Scientific American*, July 24, 1909.]

51. **Vomiting from Chloroform.**—Blanluet remarks that the vomiting from chloroform is not only annoying but impairs the solidity of the suture and weakens the patient while postoperative pneumonia and bronchitis, he is convinced, are due more frequently than generally supposed to inhalation of solid or fluid particles during the vomiting. Flemming has recently reported a remarkable instance of this: A healthy young man vomited during a herniotomy, and auscultation at once revealed large subcrepitant râles at a point where twenty-four hours later bronchopneumonia developed. Blanluet even asserts that many early fatalities as chloroform is given are in reality due to the nausea and retching; the closure of the glottis accompanying the latter imprisons in the body an excessive amount of the chloroform and carbon dioxid while preventing intake of oxygen. The patient should be given a light diet the day before the operation, peptonized milk predominating, and some sedative will be found useful by reducing the amount of the anesthetic necessary. The tendency to vomit is increased, he thinks, by movement of the body, especially when the anesthesia is not complete, consequently he advises keeping the patient still under the influence of the anesthetic until he is safely returned to bed. Of equal importance is the maintenance of an even temperature of the body, and removal of the patient from an atmosphere charged with chloroform. Inhalation of oxygen after the operation may also aid in prevention of vomiting. If there has been much secretion and swallowing of saliva, lavage of the stomach, before the patient regains consciousness, may be advisable. If vomiting occurs, the tendency may be corrected by cold applications to the stomach or injection of ergot or picrotoxin. Paterson makes a practice of injecting 1 c.c of a 2 per cent. solution of picrotoxin after the operation, repeating the injection with half the dose if a tendency to vomit develops, and has reported good results.

Semaine Médicale, Paris

June 30, XXIX, No. 26, pp. 301-312

52 Hysterical Aphasia. G. Marinesco

Archiv für klinische Chirurgie, Berlin

LXXXIX, No. 3, pp. 505-853. Last indexed July 3, p. 83

53 Injury of Pulmonary Vein. (Fall von Verletzung der Vena pulmonalis.) A. v. Eiselsberg.

54 *Unusual Metastases of Tumors. (Einige Fälle von seltenen Geschwulstmetastasen.) P. Clairmont.

55 *Operative Treatment of Brain Tumors. (Zur chirurgischen Behandlung von Hirntumoren.) H. Leischner.

56 Experimental Transplantation of the Hypophysis into the Spleen. (Transplantation der Hypophyse in die Milz von Versuchsthieren.) P. Clairmont and H. Ehrlich.

57 Operative Treatment in 61 Cases of Cleft Palate. (Uranoplastik.) E. Ranzi.

58 *Arteriomesenteric Occlusion of the Duodenum. (Zur Frage des arteriomesenterialen Duodenalverschlusses.) H. v. Haberer.

59 *Radical Operation of Carcinoma of the Large Intestine. (Radicaloperationen des Dickdarmcarcinoms.) W. Denk.

60 Functional Capacity of Lateral Enteroanastomosis. (Leistungsfähigkeit der lateralen Enteroanastomosen.) H. v. Haberer.

61 *Value of Colostomy in Inoperable Carcinoma of Large Intestine, and of the Rectum. (Werth der Colostomie bei inoperabeln Dickdarmcarcinomen, besonders bei Carcinomen des Mastdarms.) P. Odelga.

62 Primary Bilateral Mammary Carcinoma and True Umbilical Adenoma. (Zur Beurtheilung multipler Tumoren.) H. Ehrlich.

63 Deforming Osteitis. (Zur Kenntniss der Ostitis deformans Paget.) E. v. Kutscha.

64 Case of Multiple Enchondromas and Exostoses. H. v. Haberer.

65 New Method of Treating Habitual Dislocation of the Shoulder by Plastic Operation on the Muscles. (Zur Behandlung der habituellen Schulterluxation mittels Muskelplastik.) P. Clairmont and H. Ehrlich.

66 Inflammation of Tendons and their Sheaths without Effusion. (Ueber Tendovaginitis crepitans.) O. v. Frisch.

54. **Unusual Metastases of Tumors.**—Clairmont relates a number of case histories to call attention to the possibility of some unsuspected and hidden primary tumor when confronted with tumors in unusual locations with peculiar histologic findings. In one case a benign myxoma of the femur caused metastases which proved malignant. In another an apparently primary mammary tumor proved to have been the metastasis of a lymphosarcoma in the mediastinum. In another case bile and liver-cell structure was observed in a tumor removed from the skull which was then accepted as metastasis of a cancer in the liver, previously unsuspected, but suggested by darting pains under the right costal arch of which the patient had complained. A tumor under the right ear in another case showed the structure of a metastatic adenocarcinoma, and the right lobe of the liver was palpable and hard. In a case of cirrhosis of the enlarged liver a tumor in the right lower jaw also revealed a metastatic adenocarcinoma. In another case metastatic tumors in the inguinal region and elsewhere in the skin were the metastases after ablation of an adenocarcinoma of the male mamma. In two other cases a tumor in the subcutaneous tissue of the leg proved to be carcinomatous and probably a metastasis of the uterine cancer discovered months later. The necessity for search for the primary tumor in these unusual cases is apparent.

55. **Operative Treatment of Brain Tumors.**—Leischner gives the details of the tumors of the brain and posterior cranial fossa treated by surgical intervention at von Eiselsberg's clinic at Vienna during the last six years, a total of 23 cases. The outcome depends on the nature of the tumor and its operability, and this, unfortunately, can not be determined beforehand. Satisfactory permanent results to date have been obtained only with benign tumors or cysts.

58. **Arteriomesenteric Occlusion of the Duodenum.**—Haberer's case was a typical example of compression of the duodenum at its curve by the root of the mesentery although the compression was relieved as the operation proceeded and might easily have been overlooked. This finding explained the syndrome observed as a primary, frequently recurring kinking of the duodenum, caused by the artery in the mesentery root, with secondary hypertrophy and dilatation of the stomach. The case was complicated by a large umbilical hernia which was readily remedied through the laparotomy incision for the intestinal trouble higher up. The hernial sac was not excised but used as plastic material to re-enforce the suture.

59. **Operations on Cancer of the Large Intestine.**—Denk summarizes 39 cases in which the carcinoma was removed at von Eiselsberg's clinic during the last eight years.

61. **Colostomy for Inoperable Cancer of the Large Intestine.**—Odelga reviews the experiences in this line at the same clinic,

deploring the unsatisfactory results in many cases as the colostomy was not attempted until too late. He urges it as a routine procedure earlier, without waiting for severe stenosis, and states that under these conditions it may allow long survivals and give great relief. The colostomy, he thinks, should be done in two sittings and if possible be axial. Sixteen of the patients lived for two years or more thereafter, one for ten years, out of the 175 thus treated. Thirty-eight of the patients died within two weeks, including 15 with preexisting peritonitis.

Beiträge zur klinischen Chirurgie, Tübingen

May, LXIII, No. 1, pp. 1-243

67 Importance of Reactive Hyperemia in Arteriosclerotic Necrosis. W. Bergemann.
68 *Operative Treatment of Gastric Lesions. (Operativ behandelte Magenerkrankungen, 1897-1907.) J. Kindl.
69 Mechanism of Hole Fractures. (Mechanismus der Lochfrakturen.) E. D. Schumacher.
70 *Traumatic Separation of Lower Epiphysis of Femur. (Traumatische Lösung der untern Femurepiphyse.) H. Hilgenreiner.
71 Elasticity of Peritoneum in Connection with Development of Acquired Hernia. (Experimentelle Untersuchungen über die Elasticität des Bauchfells in Bezug auf die Entstehung der erworbenen Hernien.) G. Moro.
72 Changes in Peritoneum in Hernial Sac. (Histologische und functionelle Veränderungen des Peritoneums in Bruchsäcken.) Id.
73 *Subcutaneous and Intramuscular Neoformation of Bone by Injection or Implantation of an Emulsion of Periosteum. (Knochenneubildungen durch Injektion bezw. Implantation von Periostemulsion.) T. Nakahara and A. Dilger.

June, No. 2, pp. 245-445

74 *Operative Treatment of Gastric Crises by Resection of Seventh to Tenth Posterior Dorsal Roots. O. Foerster and H. Küttner.
75 Postdiphtheritic Stenosis of Esophagus. (Postdiphtheritische Speiseröhrenverengerungen.) W. Danielsen.
76 *Ultimate Results after Operations for Epigastric Hernia. (Dauerresultate nach Operationen der Hernia epigastrica.) Capelle.
77 Pedal Arrangement for Ether Drop Anesthesia Apparatus. (Ein Aethertropfnarkosenapparat mit Fussantrieb.) A. Bauer.
78 Blood Cysts in the Neck. (Blutcysten des Halses.) K. Spannaus.
79 Primary Sarcoma of the Joint Capsule. (Primäre Sarkome der Gelenkkapsel.) Hannemüller.
80 Occurrence of Langhans' Giant Cells in the Striped Muscles in Syphilis and Their Importance for Diagnosis. (Vorkommen von Langhans'schen Riesenzellen bei der Syphilis der quergestreiften Muskulatur und ihre Verwertung für die Diagnostik.) F. Landois.
81 Granuloma and Sarcoma. (Granulationsgeschwülste und Sarkome.) H. Coenen.
82 Research on Staphylococcus Opsonins. Id.
83 *Urinary Lithiasis in Württemberg. (Verbreitung und Aetiologie der Blasensteinkrankheit in Württemberg.) H. Küttner and S. Weil.
84 *Neuropathic Joint Lesions and their Diagnosis with Roentgen Rays. (Die neuropathischen Gelenkerkrankungen und ihre Diagnose durch das Roentgenbild.) R. Levy and K. Ludloff.

68. **Operations on the Stomach.**—Kindl gives the details of 230 operations on the stomach, only 112 of which were for malignant disease. The report issues from Schloffer's clinic at Innsbruck. In 82.6 per cent. of the 74 cases in which gastroenterostomy was done for a non-malignant affection, the patients were permanently cured (46) or materially improved (11). Of the 16 patients with cancer treated by resection, 4 are still living, 1 after three and a half years; the average survival was from two to nearly three years. Of the 69 cancer gastroenterostomies, 4 patients are still living, over a year since the operation. The technic, etc., are described in detail.

70. **Traumatic Separation of the Lower Epiphysis of the Femur.**—Hilgenreiner's article fills more than a hundred pages; he adds 6 to the 104 cases he has found on record, and gives the summaries of each. He is convinced that only the severe cases are published, so that the lesion is much more frequent in reality than the literature would suggest. Twenty illustrations accompany the article and the diagnosis, complications, treatment, etc., are discussed.

73. **Neoformation of Bone After Injection of an Emulsion of Periosteum.**—This communication from Narath's clinic at Heidelberg relates the successful outcome of experiments in which periosteum from the tibia of young rabbits was cut up fine with scissors and the scalpel, emulsified in salt solution and blood, and injected into the muscle or subcutaneously into another animal. The scraps of periosteum proliferated just as effectually as when large pieces are implanted. It is important, however, not to allow the periosteum to be crushed—the experiments with it ground in a mortar were always failures. It is necessary also to use large amounts of the periosteum. As it retains its vitality for a number of hours after death, it may prove possible to use the periosteum from young cadavers for therapeutic injections. The principle is similar to that of Bier's method of injection of blood into a joint to hasten reparative processes, but the periosteum emulsion has the advantage that it supplies along with the blood the material to ensure neoformation of bone. The patient is spared extensive surgical intervention, and the condition can thus be remedied without the necessity for extensive surgical measures.

74. **Operative Treatment of Gastric Crises by Resection of the Dorsal Roots.**—The details are given here of a case in which all the incessant tormenting gastric crises were permanently abolished by this operation, which actually proved life-saving under the circumstances. The results encourage similar intervention in all such cases of the severest form of gastric crises with inanition and impelling to morphin addiction or suicide. At the first sitting laminectomy had been done, but with merely an aggravation of the symptoms; resection of the seventh to tenth dorsal roots was followed by immediate cessation of all pain and nausea; "they were as if blown away," Foerster remarks, and the patient demanded food, notwithstanding the effects of the anesthetic. He is still gaining about four pounds a week, and not a trace of the former disturbances has been observed during the four months since, except that the morphin addiction has required gradual tapering off.

76. **Epigastric Hernia.**—All the articles in this issue of the *Beiträge* issue from the surgical clinic at Breslau, and the number is dedicated to the memory of von Mikulicz, the former chief of the clinic. Capelle reports 48 cases of epigastric hernia in which an operation was done with the ultimate outcome known in 35 instances. All but 6 of the patients were free from disturbances when examined later, but in these there was a tendency to recurrence of the hernia or development of lipoma. The trouble in 2 cases was evidently from the silk worm used in the suturing, suggesting that absorbable material had better be used for an epigastric hernia. In others the pain complained of before the operation still persisted, indicating that the hernia had not been responsible for it as supposed. No attempt had been made to seek for any other cause for the pain except in 2 cases and in both of these a gastric ulcer or inflamed lymph node had been discovered, the latter possibly referable to some undetected ulcer. This patient says that the pain is just the same as before the operation four years ago, or even more severe, especially after meals, and the diet has to be light. The underlying stomach affections had been masked by the epigastric hernia. The coincidence of gastric ulcer and epigastric hernia has been reported by several writers, and all comment on the months of improvement that follow the herniotomy, evidently due to the rest in bed and hygiene imposed by the operation. Six other patients have succumbed in the interim to gastric cancer, these cases emphasizing the importance of an exploratory laparotomy in every case of epigastric hernia with the slightest symptoms traceable to the stomach. Simple suture of the fascia does not guarantee sufficiently against recurrence, he concludes, and the Menge-Graser or some similar plastic technic is now used at the clinic, as he describes in detail.

83. **Urinary Concrements in the Württemberg Province.**—The statistics cited show that bladder and kidney stones used to be extremely prevalent in this region, especially in children, but that this is no longer the case. The improved methods of infant feeding in late years are probably responsible for the change.

84. **Neuropathic Joint Lesions.**—Twenty-one cases of tabetic affections of the joints are summarized from the records of the clinic, with illustrations, and their differentiation from other arthropathies is discussed. It seems evident that many of these joint affections belong in the class of spontaneous fractures. The Roentgen rays permit the ready differentiation of deforming arthritis from the neuropathic arthropathy.

and they also disclose latent arthropathies, thus permitting prophylactic measures in time—relieving the joint from the weight of the body—so that severe disfigurement and deformity can be warded off.

Berliner klinische Wochenschrift

June 21, XLVIII, No. 25, pp. 1149-1196

85 *Psychology and Psychotherapy. (Psychologie und Heilkunst.) Dubois.
86 Organic Hemiplegia in Young Girl after Emotional Shock. E. Frank.
87 *Diagnosis of Incipient Tabes. Kann.
88 *Return Cases of Scarlet Fever. (Scharlachinfektion durch geheilt entlassene Kranke.) K. Preisich.
89 Favorable Influence of Active Elements of the Thyroid on Experimental Tuberculous and Pseudotuberculous Infections. (Günstiger Einfluss der wirksamen Elemente der Schilddrüse auf die experimentellen tuberkulösen und pseudotuberkulösen Infektionen.) C. Frugoni and G. Grixoni.
90 Non-Malignant Invasion of Walls of Normal Uteri by Chorioepithelium. R. Meyer.
91 Treatment of Disturbances in Speech from Standpoint of General Practitioner. (Was muss der Hausarzt von den Sprachstörungen wissen?) H. E. Knopf.
92 Antiformin in Examining for Microparasites in Secretions and Excretions. O. Thilenius.

June 28, No. 26, pp. 1197-1244

93 Outcome of Operations for Myopia. (Erfolge der Myopieoperation.) A. Vossius.
94 Effects of Removal of Duodenum in Dogs. (Beobachtungen an Hunden mit exstirpiertem Duodenum.) A. Bickel.
95 *Serotherapy of Diphtheria Intoxication. F. Meyer.
96 Importance of Radium Emanations on General Metabolism in Man. (Einfluss von Radiumemanation auf den Gesamtstoffwechsel des Menschen.) H. Silbergleit.
97 Granulation of White Blood Corpuscles. (Granulationen der weissen Blutkörperchen.) N. v. Jagic.
98 Subphrenic Pyopneumothorax as Complication of Typhoid Relapse. W. Alexandroff.
99 Direct Visual Inspection of Distended Anterior Urethra. (Zur Endoskopie der Urethra anterior mit dem Goldschmidt'schen Irrigationsurethroskop.) A. Schlenzka.
100 *Biologic Diagnosis of Carcinoma, especially Gastric Carcinoma. J. Witte. Commenced in No. 25.

85. **Psychotherapy.**—Dubois emphasizes the importance of deep sympathy, absolute truthfulness and skill in persuasion as the three requisites for successful psychotherapy, and urges that young physicians should be trained along these lines. He is optimistic as to the benefits of treatment in psychopathies and psychoneuroses when treatment is based on rational grounds. Every psychosis is compounded of three factors, he says: (1) a primary *Fühlsanlage* or disposition (character, personality, mentality); (2) a *Fühlslage* or mood, a period during which the reactions are temporarily modified (by exhaustion, drowsiness, fatigue, disease, etc.); and (3) some event acting on the individual in the special mood and thus bringing on the psychosis. Treatment should be directed to the first factor, the character, personality, mentality, the *Fühlsanlage*, and here is where the skilled physician is able to soothe, influence and modify the underlying disposition which is the foundation on which all the rest is based. He has been extremely successful in treatment along these lines, disregarding the two other comparatively unimportant factors and exerting all his energy against the primary *Fühlsanlage*.

87. **Diagnosis of Incipient Tabes.**—Among the points useful for detection of tabes in the early stages is the functioning of the bladder. The patient may regard it as normal when it is beginning to show certain modifications such as delay in micturition after the impulse, relative incontinence at other times, especially after drinking, dribbling of urine during coughing or emotions—all suggesting weakness in the bladder musculature. The patient's denial of venereal infection can not be relied on, as a rule. Pain suggesting rheumatism, at various points, trigeminal or intercostal neuralgia, is important, as also paresthesia in the perineum or scrotum before it develops in fingers, toes or soles. Suggestive also are disturbances in appetite or digestion, obstinate constipation, abnormal sensations in the domain of the auditory or olfactory nerves. The ocular symptoms of tabes may occur as merely suggestions, but even the slightest indication is important from the diagnostic standpoint. Absence of the Achilles reflex or weakness on one side is suggestive, as also the behavior of the triceps reflex, and extremely important is the early relaxation of the muscles, especially the lack of the physiologic inhibition of the movements of the muscles of the joints. This is most marked first in the knee which can be flexed to an extreme degree, and the phenomenon is also liable to be pronounced in the ankle. This hypotony of the muscles is probably reflex, due to changes in the posterior roots. Study of various movements may reveal a tendency to ataxia before there is subjective consciousness of it by comparing the movements on both sides and palpating the action of the muscles. The palpating finger will detect the abnormal functioning of some muscle in the movement when to the eye the movement appears to be normal. This is particularly important in testing for the Romberg sign. Increased sensibility to cold, with otherwise unimpaired thermal sensibility, changes in the deep sensibility of the joints, as, when the toes are passively moved, the patient can not tell in which direction they are being moved, etc., and lack of perception of the vibrations of a tuning fork standing on the tibia—all these are important early signs of tabes. The gastric crises may manifest themselves first merely in the form of nausea and retching in the morning, salivation, hiccough or other vague disturbances. Other symptoms may suggest disturbances in the vagus domain, tachycardia, laryngeal, anal and genital crises, etc. In differentiating incipient tabes from neurasthenia, etc., it is wisest to lean toward the diagnosis of tabes at first, as measures for neurasthenia or rheumatism may fan an incipient tabes into a flame, while mercurial treatment, careful hygiene, and avoidance of mental or emotional strain and exertion of predisposed parts may keep the tabes under complete control. It is especially important for the general practitioner, he adds, to detect incipient tabes as when it is more pronounced the patient is liable to apply directly to the specialist.

88. **Return Cases of Scarlet Fever.**—Preisich has encountered 180 return cases infected by 145 scarlet fever patients dismissed from the hospital as completely cured and disinfected. The period of incubation of the return cases was from 3 to 15 days in 80 per cent. and from 15 to 25 in the remainder. Of the 4,178 cases of scarlet fever declared during the year in question, 2,392 were treated in the hospital in his charge. None of the adults gave occasion for the return cases; they occurred with children who were much embraced and petted. Another point to which he calls attention is the probability that the patients in the hospitals are constantly acquiring new virulent germs from others, after their own germs have probably lost their virulence. This seems the only explanation possible for one case which followed the return of the child to its home after 102 days in the hospital. The data presented seem to indicate that the secretions of the mucosæ are the vehicle of contagion. Preisich is convinced that the skin plays no further part in transmitting the virus after it is thoroughly cleansed, but that it is important to separate the convalescents from patients in the first stages of the disease, and, chief of all, to see that the mucosæ are brought into a healthy condition before the patient is discharged. The sound mucosa takes care of the virus but it must be given time to do this, fully two weeks after recovery. When the patient has completely recovered he should pass into another department and be detained 10 or 12 days longer. To ensure this Preisich would have this auxiliary department arranged for only 6 patients, all in the same stage of the disease. A single nurse could attend to this group. After two weeks here, the patients pass to the general ward for their third and final "station."

95. **Antitoxin Treatment of Diphtheria Intoxication.**—Meyer relates experimental research which confirms the effectiveness of antitoxin, not only in saving the lives of the animals in diphtheria intoxication, but in warding off acute heart failure, chronic changes in the heart, and cachexia. Much larger doses are necessary for this, however, than those generally employed, he says, and the injection should be made earlier. He advises intravenous injection of from 20,000 to 50,000 units when the symptoms indicate the severest infection, and an antitoxin should be made for this purpose without admixture of a preservative. Injection of adrenalin is the only means to arrest impending heart failure in diphtheria, but this is eminently effectual.

100. **Biologic Diagnosis of Cancer.**—Witte concludes his long review of the various methods of biologic diagnosis of cancer with the declaration that none shows much promise. The most encouraging results obtained to date have been with the complement-binding test (Livierato) and the cutaneous carcinoma reaction (Elsberg).

Deutsche medizinische Wochenschrift, Berlin

June 24, XXXV, No. 25, pp. 1089-1128

101 *Thrombosis of Pulmonary Artery. E. Stadelmann.
102 *Treatment of Epilepsy. Kellner.
103 Psychosis and Imitation Psychosis. (Psychose und Induktionspsychose.) A. Raebiger.
104 Determination of Proteolytic Ferment in Stools. (Bestimmung des proteolytischen Ferments in den Faeces.) A. Doblin.
105 *Sepsis from Diphtheria Bacilli. F. Hesse.
106 Incarceration of Cecum with Chronic Appendicitis. (Einklemmung des Coecums in der Fovea inguinalis medialis, verbunden mit Appendicitis chronica.) R. v. Hippel.
107 *Statistical Study of Outcome of Sanatorium Treatment of Pulmonary Tuberculosis. (Zur Frage der Kurerfolge Lungentuberkuloser in den Heilstätten. F. Köhler.
108 Technic for Measuring Tubercle Bacilli for Inoculation Tests. (Eine neue Methode zur genauen Bestimmung der Quantität der Tuberkelbazillen bei Impfversuchen.) M. Rabinowitsch.
109 Percussion Findings with Pleural Effusions. (Gewisse Perkussionssymptome bei Pleuraergüssen.) M. Gantz.
110 Fuchsin-Alcohol Technic for Forensic Determination of Spermatozoa. (Neue Methode zum Nachweis der Spermatozoen in Zeugflecken.) B. Baecchi.

July 1, No. 26, pp. 1129-1176

111 *Treatment of Abortion. K. Franz.
112 Intestinal Pulmonary Anthrakosis. T. Tsunoda.
113 Organic Disturbances with Functional Psychoses. (Körperliche Störungen bei funktionellen Psychosen.) A. Homburger.
114 Diagnosis of Cholera. H. Dold.
115 Influence of Mercurial Injections on Seroreaction in Syphilis. (Die provokatorische Wirkung von Sublimatinjektionen und deren Beziehungen zur Wassermannschen Reaktion bei Syphilis.) A. Buschke and H. Harder.
116 Atoxyl Poisoning. (Atoxylvergiftung mit besonderer Berücksichtigung der Wirkung auf das Sehorgan.) J. Igersheimer.
117 *Bacteria in Tablets for Spinal Anesthesia. (Sind die zur Lumbalanästhesie verwandten Tropakokain-Suprarenin- und Novokain-Suprarenintabletten steril?) W. Hoffmann.
118 *Etiology of Epidemic Cerebrospinal Meningitis. (Zur Aetiologie der Genickstarre und darauf bezügliche Nutzanwendung.) Knauth.
119 Special Form of Ileus from Constriction. (Chordapsus.) O. Klauber.
120 Invisible Virus. (Studien über sogenannte "unsichtbare Virus"-Arten.) Czaplewski.

101. **Thrombosis of the Pulmonary Artery.**—Stadelmann reports a case which demonstrates anew the impossibility of diagnosing during life occlusion of the pulmonary artery when it is not quite complete. His patient was a young man with mitral stenosis and isolated sclerosis of the pulmonary artery which contained an old, large thrombus.

102. **Treatment of Epilepsy.**—Kellner protests against the prevalent pessimism in regard to epilepsy, and states that his experience with 146 epileptics during the last eighteen years has shown that a large proportion are curable. He has systematically applied the Flechsig opium-bromid and baths course of treatment, and states that 31 per cent of the patients have been permanently cured, that is, free from recurrences to date. It may be necessary to repeat the course once or twice to maintain the benefit. He reviews his experience in detail, remarking that any nausea caused by the treatment can be cured by keeping the patient in bed for a few days, refraining from hot meat. Cold meat is generally well tolerated. His last series of 61 patients were thus brought safely through the 50 "opium days," although they generally lost considerably in weight but this was soon regained in the following weeks. He urges the importance of institutional care of epileptics during treatment and the separation of the mentally sound from the idiots. He states that Germany has from 30,000 to 35,000 individuals with epilepsy without impairment of the mind; the pessimistic standpoint of many physicians drives these unfortunates to the quacks when persevering systematic treatment would cure a large proportion.

105. **Diphtheria Bacilli and Sepsis.**—Hesse reports a case in which a previously healthy young man recovered spontaneously from tonsillitis, but sepsis developed not long afterward, proving fatal in a few weeks. Diphtheria bacilli were found in pure cultures in the blood; the injections of antitoxin came too late to have the slightest influence on the disease. Typhoid had been suspected at first, and later streptococcus sepsis.

107. **Sanatorium Statistics in Regard to the Cure of Tuberculosis.**—Köhler states that recent examination or news of 1,668 tuberculous patients two years after a course of sanatorium treatment showed over 61 per cent. with complete earning capacity; after four years 53.5 per cent., and after six years 69.4 per cent. Partial earning capacity was found in 17.5 per cent. after two years; in 14.2 per cent. after four years, and in 7 per cent. after six years, while 14.2 per cent. had died by the end of two years; 25.2 per cent. after four years, and 19.4 per cent. after six years. The tuberculosis was by no means responsible for all these deaths.

111. **Treatment of Abortion.**—Franz remarks in the course of this clinical lecture that the main task in treatment of abortion during the first seven months is to arrest the hemorrhage, but later the task is to ensure the complete emptying of the uterus. He warns that the curette should never be used with a vesicular mole as it is impossible to know the extent of the destruction of the uterus wall. After the uterus has been cleared with the finger, he rinses it out with two or three liters of 70 per cent. alcohol in every case of abortion.

117. **Defective Sterilization of Tablets Used for Spinal Anesthesia.**—Hoffmann has been testing various tablets of anesthetics for spinal anesthesia on the market, and has discovered bacteria in them. Attempts to sterilize the tablets by heat destroyed the suprarenal preparation in the tablets. He advises against admixture of any suprarenal preparation with the anesthetic, declaring that it is best to sterilize them separately.

118. **Prophylaxis of Epidemic Cerebrospinal Meningitis, etc., in Garrisons.**—Knauth tabulates the infectious diseases occurring in the barracks at Würzburg, showing certain connections useful from the standpoint of prophylaxis. Among the conclusions is the necessity for paying greater attention to tonsillitis and to guarding the patients for a few days afterward. The organism recovering from the struggle against the germs must be protected while it recuperates; otherwise the door is thrown open to other infectious processes. Protection during convalescence from acute tonsillitis, he asserts, will save the troops from many cases of nephritis, acute articular rheumatism and even epidemic cerebrospinal meningitis. His recent experience with prophylaxis along these lines has been convincing.

Jahrbuch für Kinderheilkunde, Berlin

June, LXIX, No. 6, pp. 625-744

121 *Jaundice in New-Born Infants. (Der Icterus neonatorum.) C. Hasse.
122 *Exudative Diathesis and Eosinophilia. J. Rosenstern.
123 *Chronic Nephritis in Children. O. Aronade.
124 Cutaneous Tuberculin Reaction in Children. E. Hellesen.

121. **Jaundice in the New-Born.**—Hasse reports study of the anatomy and physiology of fetuses and new-born infants which demonstrates that the jaundice is the result of the action of the diaphragm causing stasis in the biliary passages. Conditions right themselves as the at first disproportionately large liver becomes reduced in size under the influence of the regular respiration.

122. **The Exudative Diathesis and Eosinophilia.**—Rosenstern calls attention to the coincidence of eosinophilia with certain skin diseases, especially eczema and prurigo, affections of the mucosæ, helminths and certain nervous affections, including epilepsy, chorea and migraine, and discusses the connection between the eosinophilia and eczema in particular. The average in 6 breast-fed healthy infants was 242 eosinophile cells, and in 6 artificially fed, 226. In 14 with eczema they ranged from 146 to 4,377. In 6 with asthma, from 76 to 1,287. Study of the eczema cases shows, he says, that the eosinophilia is not dependent on the local process but is an independent symptom of a constitutional anomaly, the result of some injury which entails both the eosinophilia and the tendency to the eczema. Both are the consequences of a single cause.

123. **Chronic Nephritis in Children.**—Aronade gives the autopsy findings to complete the case reported, throwing light on the nature and course of such nephritic processes in children.

Medizinische Klinik, Berlin

June 27, V, No. 26, pp. 954-990

125 The Right to Life of the Child. (Recht des Kindes auf das Leben.) K. A. Herzfeld.
126 Roentgen Diagnosis of Gastrointestinal Lesions. (Zur röntgenologischen Diagnose der Erkrankungen des Verdauungstraktus.) Schürmayer.
127 Severe Anemia in Infant from Lack of Iron. (Schwere Säuglingsanämie durch primären Eisenmangel.) W. Stoeltzner.

128 *Treatment of Asthma. M. Saenger.
129 *The Terrace System of Construction of Houses, Hospitals, Etc. (Freilufthäuser.) D. Sarason.

July 4, No. 27, pp. 991-1028

130 *Syphilitic Involvement of the Joints. (Luetische Gelenkerkrankungen.) W. Harttung.
131 Liver Abscess. (Leberabszess.) Mac Lean.
132 Modern Treatment of Gastric Ulcer. (Moderne Therapie des Ulcus ventriculi.) W. Zweig.
133 *Intermittent Claudication. (Intermittierendes Hinken.) E. Tobias.
134 Preparation of Digitalis. (Zwei Digitalisfragen aus der Praxis.) C. Focke.
135 *Influence of Pregnancy on Laryngeal Tuberculosis. (Einfluss der Schwangerschaft auf die Tuberkulose des Kehlkopfes.) E. Glas and E. Kraus. Commenced in No. 26.
136 Bacteriologic Desiderata in Preparation of Catgut. Wolthe. Commenced in No. 26.

128. **Treatment of Asthma.**—Saenger states that five years' experience has only confirmed the benefits of his method of treating asthma by training the patients to breathe and to endure long pauses between the inspirations. One way is to have the patient count and then take a short breath, or the patient can blow or whistle or play on a mouth harmonica instead of counting. The aim is to control the respiration and free the patient from the dread of suffocation during long pauses between inspirations. He should be trained to use his abdominal muscles more in breathing. Another important point is to teach the patient to control the tendency to cough, as the cough is liable to start the attack of asthma. The general hygiene must be regulated, and the physician must bear in mind that the patient is liable to have other morbid tendencies, besides the asthma, which may require correction. These patients are often lacking in will power and are obstinate and capricious, requiring pedagogic measures.

129. **"Terrace" Houses.**—Sarason's system of construction of buildings has already been described in these columns, but his recent modifications have rendered it more practicable. In order to have plenty of balconies for outdoor sleeping and living, without detracting from the light and air of the rooms beneath, he has each story set back a few feet from the front elevation of the story below. This forms a series of terraces at the different stories. In order not to sacrifice too much indoor space to these terraces, he has each terrace supplemented by being built out like a balcony, the width of this balcony being added to the floor of the terrace, while the balcony is too narrow to interfere with the light and air of the rooms in the story below.

130. **Syphilitic Joint Lesions.**—Harttung discusses the various forms and indications, remarking that general specific treatment, with surgical measures as indicated, will ensure complete restitution if taken in time. Even if there is much destruction or scar formation, specific treatment arrests the process and saves what is still repairable.

133. **Intermittent Claudication.**—Tobias reports nine cases, the dyskinesia being in the legs; four of the patients were working people and five were Jews. The first symptoms had been observed years before in some of the cases. Tobacco was not a factor in any instance, but a neuropathic diathesis was evident in all. In one case diabetic neuritis and in another the influence of trauma were evident. The frequency of the affection in Russia seems to suggest some climatic influence. Flatfoot may be a predisposing factor. The most important symptom is the weakness or absence of the pulse in the feet. He has made a practice during the last seven months of examining the pulse in the arteries of the foot and legs in all his patients. In only one case he found no pulse in the arteries of the foot, and this individual proved to have intermittent claudication. The immediate disappearance of the disturbance during rest is important for differentiation, as also the fact that palpation does not cause pain. Treatment should aim to regulate the circulation and cure the neuropathic tendency with symptomatic measures; the main point is to commence treatment early. Besides general hygiene, hydriatic and balneologic measures, systematic exercises are important but severe efforts do harm. He has never witnessed any benefit from massage; the important point is to alternate rest and exercise. Gangrene is rare from this cause at present, but in many cases the intermittent claudication still resists treatment although it can be kept measurably under control.

135. **Influence of Pregnancy on Laryngeal Tuberculosis.**—Glas and Kraus report the experiences at Chiari's and Schauta's clinics at Vienna with 59 cases of laryngeal tuberculosis in pregnant women. They confirm the unfavorable influence of gestation on a tuberculous process in the larynx. Küttner has declared that a pregnancy in women with laryngeal tuberculosis is equivalent to a death sentence in 90 per cent. of the cases, and the reported experiences are even more discouraging: none of the 32 women with diffuse laryngeal tuberculosis survived the puerperium. In another group of 11 cases the laryngeal process, originally very mild, became transformed during pregnancy into the diffuse form, fatal in all. On the other hand, in some of the patients in whom abortion was induced, the laryngeal process promptly took a turn for the better. In 20 per cent. of their cases spontaneous abortion occurred and these women all died. Of the 32 women delivered at term 60 per cent. of the children survived only a few days. Veit's dictum in regard to the importance of the increasing or declining weight as an index of the severity of the laryngeal process was found useful but should be estimated always in connection with the general findings. Early in the pregnancy the progressive character of the laryngeal process indicates abortion; later in the pregnancy interference has no effect on the progressive laryngeal lesion, but tracheotomy may relieve and it has occasionally a direct curative effect.

Münchener medizinische Wochenschrift

June 22, LVI, No. 25, pp. 1265-1312

137 *Clinical Importance of Seroreaction in Syphilis. L. Hauck.
138 *Origin of Uterine Tumors. (Entstehung der Uterustumoren.) A. Theilhaber.
139 *Internal Treatment of Skin Diseases with Lime Salts. (Innerliche Behandlung von Hautkrankheiten mit Kalksalzen.) Bettmann.
140 Serotherapy in Epidemic Cerebrospinal Meningitis. (Serumtherapie bei epidemischer Genickstarre.) B. Leick.
141 Flatfoot Shoes without Insole. Muskat.
142 Care of Umbilical Cord. (Zur Versorgung des Nabels beim Neugeborenen.) Krummacher.
143 Foreign Bodies in Nose. (Diametral gegenüberstehenden Fo'geerscheinungen zweier Fremdkörper in der Nase.) Mühlenkamp.
144 *Treatment of Postpartum Hemorrhage. (Behandlung der Post-partum Blutungen.) A. Labhardt.

137. **Seroreaction in Diagnosis of Syphilis.**—Hauck ascribes great value to the Wassermann test in syphilis from his findings in 300 cases of syphilis and 184 control cases. It is not infallible, he says, but neither is the agglutination test in typhoid.

138. **Hematogenous Origin of Myoma and Carcinoma.**—Theilhaber thinks that there is an unmistakable connection between the composition and circulation of the blood and the development of myoma and cancer. Myoma occurs in hyperemic regions, carcinoma in anemic; this explains the prevalence of the former in the well-to-do and in regions subject to recurring hyperemia, while the poorer nourished are less subject to it and suffer more from cancer at points imperfectly nourished, as in the cervix of the uterus and in cicatricial tissue. His views are based on the findings in 228 cases of uterine myoma and 133 of carcinoma of the cervix, encountered among his 5,848 gynecologic patients during the past ten years. The composition of the blood in the leisure class, the meat eaters, probably differs from that of the defectively nourished, the working classes. He ascribes to certain substances in the blood the process of menstruation, the development of sexual characteristics, etc., and believes that the character of the food has a great influence on the composition of the blood, just as plants can be influenced in growing fruit and flowers by modifying the manure used on them. Myoma very rarely occurs in the badly nourished cervix while carcinoma is frequent there; when the circulation in the fundus has become defective after the menopause, carcinoma is liable to develop in the fundus while it is very rare in the fundus in young women. Myoma occurs more frequently the less the number of births, while carcinoma is encountered more frequently the greater the number of births with their resulting cicatricial processes. Cancer of the cervix is rare in women who have not borne children.

139. **Internal Treatment of Skin Diseases with Calcium Salts.**—Bettmann has obtained remarkable benefit in a certain

proportion of itching skin affections from internal administration of calcium lactate in a 5 per cent. solution, one or two tablespoonfuls an hour before meals, three times a day, for three or four weeks. His experience with seventy cases showed that the remedy failed to influence the affection in the majority of cases, but in others the effect was marked and encourages further trials of this simple medication which his experience has shown to be harmless. It proved efficient in conditions peculiarly rebellious to other measures, especially in the "toxicodermias." In senile pruritus, in particular, the effect was marked.

144. **Treatment of Postpartum Hemorrhage.**—Labhardt reviews the experiences at von Herff's clinic at Basle with atony of the uterus and placenta prævia; during the twelve years ending in 1903, 0.05 per cent. of 38,923 lying-in women died from the results of atony and 0.025 per cent. from placenta prævia. During the years 1901-1908 Dührssen's tamponing technic was applied in 6 cases to arrest threatening hemorrhage, but the women all died; another died without tamponing. In all the other 210 cases of hemorrhage from atony it was arrested without tamponing, merely under ergot, massage and hot douches. Adrenalin was used in 2 cases, but failed to display any efficacy, probably from the abnormal structure of microscopic elements in the uterus wall. This abnormal structure is one of the reasons why the results of experiments on animals can not be applied to man, as the organs of the animals are presumably sound. Bettmann thinks that resection of the bleeding uterus or hysterectomy should be considered more generally in treatment of rebellious postpartum hemorrhage. He applied it in 2 cases but while debating the indications precious time was lost and the operation came too late. The heart action must be the guide to determine when to operate, he reiterates. If the blood pressure has dropped until the pulse is almost imperceptible, and the measures previously applied have induced little if any response on the part of the uterus, the moment has come for operative interference. In any event, he adds, do not waste time tamponing. He advocates a laparotomy, drawing the uterus out and throwing a rubber tube around it at the vesicouterine plica, like a tourniquet, which arrests all tendency to hemorrhage. The drawn out uterus can then be packed in sterile cotton and prevented from slipping back by a couple of knitting needles inserted above the constricting band. The woman can then be carried to a hospital, or if already in the hospital the resection or hysterectomy can proceed. By this means the general practitioner is able to handle these urgent cases of postpartum hemorrhage; he requires only a knife or scissors for the incision, a band for the constriction of the pedicle of the uterus and two knitting needles—all of which can be readily sterilized. The main point is to make the abdominal incision as short as possible, only long enough to reach in and draw out the uterus; if too long it allows prolapse of intestine which dangerously complicates the case. In severe postpartum hemorrhage the only chance for the woman is in operative intervention before it is too late.

Riforma Medica, Naples

June 21, XXV, No. 25, pp. 673-700

145 Chemistry of the Stomach in Tabes. (Le crisi gastriche e lo stomaco dei tabici.) G. Tria and M. Landolfi.
146 Negri Bodies, Lentz Bodies and Changes in the Nerve Centers in Rabies. (Corpi Negri, corpi di Lentz ed alterazioni dei centri nervosi nella rabbia.) L. d'Amato and V. Faggella.
147 Syphilids in Third Stage of Syphilis. (Il periodo tardivo della sifilide in rapporto al periodo precoce.) P. Longo.
148 Bladder Disturbances in Spinal-Cord Disease. (Studio delle turbe vescicali nelle malattie del midollo spinale.) L. Segre.

Hospitalstidende, Copenhagen

June 2, LII, No. 22, pp. 681-704

149 *Attempt to Remove Tumors at Base of Brain. (Forsøg paa at tjerne 2 Tumores, den ene i Vinklen mellem Pons og Cerebellum, den anden i Cerebellum.) V. Christiansen.

149. **Tumors in Cerebello-Pontine Angle and in Cerebellum.**—Christiansen reports two cases in which an attempt was made to remove the tumors, and if they had been less extensive they might have been shelled out. This proved impossible owing to the ramifying growth of the large tumors. The ample access to the cerebello-pontine angle encourages further attempts in this line. The enormous tumor at this point, although in direct contact with the inferior cranial nerves, yet caused symptoms from only three of them. The patient was a child of 6, and autopsy disclosed a hemorrhagic cyst on one side of the pons, evidently responsible for the transient loss of consciousness observed several times during the last few weeks. The tumor grew both inside and outside of the pons, but its intrapontine part had induced only slight and vague symptoms, the syndrome being dominated by the involvement of the cranial nerves. The other patient was a man of 29 and the symptoms observed for nine months all pointed to a cerebellar tumor, especially the intense pain in this region, the vertigo and vomiting, but no tumor was discovered at the operation. Autopsy revealed it on the under surface of the cerebellum clinging also to the pons and medulla oblongata, but it was not definitely circumscribed. In both cases the comparative mildness of the symptoms in view of the large size of the tumors was most striking. The medulla in the second case was compressed to a ribbon for a few centimeters, but still no symptoms were observed suggesting involvement of this organ.

Norsk Magazin for Lægevidenskaben, Christiania

June, LII, No. 6, pp. 494-568

150 Studies on Radioactivity. E. Poulsson.
151 Nine Pubiotomies. (Hebosteotomi.) K. Brandt.

Upsala Läkareförenings Förhandlingar

XIV, Nos. 5-6, pp. 349-505. Last indexed June 12, p. 1966

152 Technic and Prognosis of Operations for Extraction of Crystalline Lens (Kasuistika bidrag till kännedomen om lins extraktionens teknik och prognos.) A. E. Lidström.
153 Technic for Study of Capillary Circulation in the Frog, especially in the Frog Lung. (Om tekniken vid undersökning af kapillarcirkulation hos grodan.) H. Ohrvall.
154 Technic and Ultimate Outcome of 352 Various Gynecologic Operations. (Redogörelse för gynekologiska operationer.) G. Ekehorn.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

MENTAL MEDICINE. By Oliver Huckel, S.T.D., Graduate, University of Pennsylvania. Cloth. Pp. 214. Price, $1 net. New York: Thomas Y. Crowell & Co.

EXERCISE IN EDUCATION AND MEDICINE. By R. Tait McKenzie, B.A., M.D., Professor of Physical Education and Director of the Department, University of Pennsylvania. Cloth. Pp. 406, with 346 illustrations. Price, $3.50 net. Philadelphia: W. B. Saunders Co., 1909.

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